

VIRTUAL SCHOOLING . . . A CLOSER LOOK FROM THE INSIDE OF AN INDIANA
CHARTER VIRTUAL SCHOOL EXAMINING THE TEACHERS' PERCEPTIONS OF THE
CHARACTERISTICS OF ITS TEACHERS AND STUDENTS

A DISSERTATION

SUBMITTED TO THE GRADUATE SCHOOL

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE

DOCTOR OF EDUCATION

BY

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and friends, I love you all! Thanks for your patience, love and support that enabled me to work on this venture.

DEDICATION

I never thought I would be at this point in my life when I would be writing a dedication for such a large piece of work; but, from the day I received my acceptance letter into the doctoral program at Ball State University in the Department of Educational Leadership, I knew that I wanted to dedicate this entire dissertation to my cousin, Zachary Novak, who was tragically killed in a plane crash in April, 2006.

Zachary was one of the most amazingly talented people I have ever met and has been such a major and important part of my life; not only as my cousin, but also my very best friend. We traveled to many parts of the U.S. and had many conversations about our lives, both professionally and personally. Zachary was a graduate student at Indiana University's Jacobs School of Music, about three weeks away from obtaining his Masters in Music, when his young life was cut short. Following graduation, Zachary planned on moving back to our hometown of Anderson, Indiana, where we had already begun to plan many activities and travels upon his return home. Zach's ultimate goal was to attend the University Of Michigan School Of Music in pursuit of his doctorate in Choral Conducting. I have no doubt, if still alive; he most likely would have beaten me to obtaining his Ph.D., even though he was 10 years younger than I.

I know Zachary has been with me in spirit through this entire experience, and I know he will be there, walking with me, as they call my name to walk across the stage as Dr. David Brian Sturgeon, Educational Doctorate in Educational Leadership—as proud as I know he would be if he were there in person. Therefore, this entire degree, and whatever the future might hold for me, both professionally and personally, is dedicated to the memory of Zach.

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CHAPTER ONE

Eleanor Roosevelt said, “It is today we must create the world of the future” (Hammonds n.d.). It is today in Indiana that we are moving well into the 21st Century in public education by the establishment of Virtual Charter Schooling and creating that world of the future.

Hoosier Academy Virtual School (HAVS), which is chartered and sponsored by Ball State University, was in its first full year of existence for the 2011-2012 school year. During the school years, 2009-2010 and 2010-2011, HAVS was a pilot school program capped at 220 students in grades K-6 as per the charter set forth by Ball State University. At the start of the 2011-2012 school year, the pilot was dropped and HAVS was established as a full-fledged public charter virtual school. Enrollment was now opened to grades K-10 with a new cap of 2600 students as set forth in the charter. The focus of this research was to determine the important characteristics of teachers and students in this school, according to teachers, in hopes of creating a model for students in virtual learning.

In 2009, the U. S. Department of Education published a meta-analysis of evidence-based studies of K-12 and postsecondary learning programs (Means, 2009). The study reported that “students who took all or part of their classes online performed better, on average, than those taking the same course through traditional face-to-face instruction” (Lips, 2010). In addition, online learning was shown to have the potential to improve productivity and the potential to lower the cost of education, reducing the burden on taxpayers. The Florida TaxWatch report (2007) published “A Comprehensive Assessment of Florida Virtual School” examining the

efficacy and efficiency of the Florida Virtual School, which offers online courses and Advanced Placement courses for middle and high school students statewide. This report will be further explored in the literature review in Chapter Two. Indiana is now laying the foundation for providing opportunities for students across the state with educational prospects that have not previously been in existence through this 2011-2012 school year. According to the results from a 2010 Public Opinion Survey on K-12 Education of Indiana residents, 88.3% of respondents supported providing virtual learning to students seeking advanced courses not presently offered by schools. They, furthermore, supported virtual learning for at-risk students (84.6%) and for those who have dropped out of high school at a level of 71.3%. Residents of Indiana also believed (58%) that virtual education was fitting for students to use as a method of credit recovery from courses they had failed and lastly 53.9% believed virtual learning was appropriate for relieving scheduling conflicts in schools (Plucker, Spradlin, & Whiteman, 2011). It is through this online or virtual learning that students are able to move away from the traditional learning that is typically found in the brick-and-mortar environment. Clayton Christianson, et al. (2008) discusses online learning and the potential benefits it could have to revolutionize learning. It is reasonable to expect virtual education to improve learning opportunities for not just Indiana students, but students throughout America in a number of ways: Increased access to high-quality teachers, mass customization and optimization of curriculum and instruction, increased flexibility for students and families, enhanced flexibility for teachers, improved productivity and efficiency, and innovation (Lips, 2010).

This new form of education—virtual or online learning—seems to be emerging across the country for four central reasons suggested by Hill (2010). These reasons explain why online learning is surging in the United States.

First, **the explosion of technology**: Entrepreneurs and technology developers are looking at and working with innovative forms of instruction that provide high quality content with ongoing support for students, at reduced costs, particularly to state taxpayers.

Second, **recessions**: States and local school districts are faced with a serious decline in revenue and are exploring new ways to offer the instruction to students. “Pink slipping” large numbers of young teachers to pay senior teachers has become the rule and not the exception.

Third, **public sector innovation**: School districts such as New York City are searching for forms of schooling that combine online and face-to-face instruction with the intent of expanding the number of schools making new uses of teachers, technology, time, and student work.

Fourth, **a new commitment to attaining standards**: The national focus on learning outcomes has changed the entire sector of education from one that is focused on “how and where” students learn to a system focused on “what” they learn.

The recent growth and interest in virtual school creates the necessity to examine their defining characteristics more carefully, particularly those of the students and teachers. What is it that makes online teaching experiences so much different than that which is offered by brick and mortar? Communication is number one with regard to important online characteristics of the online teacher (Revenaugh, 2005-2006). Dr. Teresa Dove, National Online Teacher of the Year in 2010, indicated that “educators who teach in an online setting should foster strong relationships with their students and parents and should offer positive feedback” (Five Lessons From the Nation's Best Online Teacher, 2010). As part of her top five practices of a thriving online teacher, Dove also indicates that teachers should talk with their students every day by phone to build those one-on-one relationships with each of them (Five Lessons From the Nation's Best Online Teacher, 2010).

Looking realistically, the feasibility of building one-on-one relationships between teachers and students would certainly depend on the student-to-teacher ratio. At Hoosier Academy Virtual School, the environment as of March 1, 2012, was a teacher-to-student ratio of approximately 1:45 in grades K-6; nearly 1:60 in grades 7-8; and grades 9-10 varied by subject with an average of 1:185 overall, which tends to be higher than a physical classroom setting. According to Greg Kalisz (2011), Director of Student Services and Adult Education for Anderson Community Schools, he provides key statistics for the entire district and schools. One statistical finding from this report is average class size, with the average class size for the entire district being 1:24.75. The average class size in grades K-6 is approximately; 1:24.5, 1:25 in grades 7-9; and grades 10-12 is approximately 1:25. Even though teachers in grades 7-12 have an average class size of 25 students, each teacher instructs six courses daily providing an average of 1:150 as an overall ratio (Kalisz, 2011).

Teachers in this environment find themselves in a much closer partnership with families (Revenaugh, 2005-2006) even though they may never see their students face-to-face in a classroom setting. The interaction through e-mail, phone, message board, and internal e-mailing all puts communication at the forefront of what makes the virtual school a potentially gratifying experience for both the teacher and the family (Revenaugh, 2005-2006).

What about students? What are those important characteristics a student must possess in order to find the online learning experience valuable? Michigan Virtual Schools released a set of recommendations they found the online learner should possess in order to experience this type of learning environment as one that is productive. Self-motivation was the the number one characteristic. It has been shown that students who are self-motivated are able to direct their own learning environment, fulfill course requirements and achieve individual academic success (Recommendation for Full-time Online Learners, 2010). In addition to being self-motivated, being an independent learner, having computer literacy skills, possessing effective time

management skills, having effective writing skills, and being able to achieve a *personal* commitment, are just a few of the top characteristics that are predictors of student achievement in this type of learning environment (Recommendation for Full-time Online Learners, 2010).

Statement of the Problem

Public schools in Indiana and across the nation are in a rapid state of change. With the passage of House Bill 1002 in the summer of 2011, Indiana adopted legislation that cleared the way for and expanded the list of entities eligible to sponsor charter schools (ISTA, 2011). This has the potential to open the door for more types of virtual schooling to surface. Hoosier Academy Virtual School (HAVS), the virtual charter school in this case study, is currently the largest virtual school in the state of Indiana. It is chartered and sponsored by Ball State University, located in Muncie, Indiana.

Due to virtual education being so new in the State of Indiana, guidelines regarding characteristics the school's online teachers and online learners should possess are evolving, but not yet finalized. The intent of this research was to provide a basis for families to determine if the online learning environment might be a good educational alternative. Furthermore, an added objective of this research is to offer a foundation for future teachers to ascertain if the online learning environment might be a suitable educational alternative for them personally or professionally.

Purpose of the Study

The purpose of the study was to consider the various types of virtual schools and inquire about their teachers and learners. More specifically, the study sought to: 1) Determine the important characteristics, from the teacher's perspective, what makes an effective online teacher and 2) Determine the important characteristics, from the teacher's perspective, of the online learner. This information was compiled through a survey where virtual staff members rated those characteristics that they deem essential for an online teacher and student. Further, interviews with select teachers at the elementary, middle and high school levels were conducted to look more closely at those students who were making academic gains and seek to identify from the teacher's perspective, important characteristics of those learners. Additionally, a survey was sent to parents to determine why they chose this type of learning environment for their child. Lastly, two sets of interviews were conducted with staff members. The first interview consisted of four focus groups (see Chapter 3): one with elementary (K-2), one with upper elementary (3-6), one with middle (7-8) and one with high school (9-10) staff members to further discuss those characteristics that stood out as important characteristics. A second interview was conducted with 10th grade high school teachers who worked with students performing in the top 10% of their class academically. The main focus of this interview was to examine each teacher's perspective on the important characteristics of successful online students.

Significance of the Study

The summer of 2011 marked the first time in Indiana public school history when students were given an option to attend a public school that is delivered fully online with certified, licensed, and highly qualified teachers (Indiana Department of Education, 2011). All teachers hired to date for Indiana virtual schools meet the guidelines of the highly qualified status under the Department of Education's guidelines. This study is an attempt to determine the core characteristics of both online teachers and learners. The results of this study will serve as a tool for the school, and potentially all virtual schools, to provide the most appropriate professional development opportunities for its teachers. Additionally, it may serve as a tool for universities to better prepare pre-service teachers by offering classes that are specific to virtual schooling and identifying those pre-service teachers who might have those characteristics conducive to working in a virtual learning environment. Finally, this study could act as a determinant in developing a "screener" designed for parents interested in enrolling their student(s)/child in a virtual education program. This "screener" would predict a student's probability of success based on the student characteristics deemed to be most important in this study.

Research Questions

The following research questions were addressed in this study:

1. In an Indiana Virtual School, what are the characteristics of online teachers that teachers deem important?
2. In an Indiana Virtual School, what are the characteristics of online learners that teachers deem important?

Delimitations

Findings and conclusions of the study may be limited by the following conditions:

1. The population of the study is limited to only those staff members and parents within this particular Virtual Charter School who completed and submitted the survey.
2. The study is limited to the questions on the survey instruments.
3. The study is limited by the respondents' personal feelings regarding the virtual schooling environment and their responses to the open-ended questions on the survey instrument.
4. The study is limited by the bias of the respondents as they are working in this virtual environment by choice or have chosen to come to this type of learning, thus potentially affected by the respondent's own feelings in answering the questions on the survey instruments.

Definitions

This section will be dedicated to defining key terms that will be used throughout the research and that are unique to virtual education:

21st Century Skills: Looking at specific skills as to what we learn, how we learn it and how often we must refresh skill sets is ever-changing. The specific skills are Digital Age Literacy, Inventive Thinking, and Interactive Communication, Social and Personal Skills, and Quality, State-of-the-Art Results (Group n.d.).

Average daily membership (ADM): A school corporation's ADM is the number of eligible pupils enrolled in: (1) the school corporation; or (2) a transferee corporation on a day to be fixed annually by the state board.

Asynchronous: Communication that is separated by time. Examples are e-mail, online discussion forums, message boards, blogs, podcasts, etc.

Blended Learning (also hybrid learning): Learning that is facilitated by the effective combination of different modes of delivery, models of teaching, and styles of learning, and is based on transparent communication amongst all parties involved with a course.

Credit Recovery: Refers to a student passing and receiving credit for a course that he/she has previously attempted but did not succeed in earning academic credit towards graduation.

Cyberschool: (also online school and virtual school): a formally constituted organization (public, private, state, charter, etc.) that offers full-time education delivered primarily over the Internet (Wicks, 2010).

Elluminate™: Web-conferencing system (the virtual classroom).

K12: A company established in 1999 to provide educational alternatives for children whose enrollment in a traditional brick and mortar building wasn't working for them. Their

mission is: To provide any child access to exceptional curriculum and tools that enable him or her to maximize his or her success in life, regardless of geographic, financial, or demographic circumstance (K12, 2011).

K-Mail: Internal e-mail communication within all K12 schools where messages are never able to be deleted and remain in the database permanently.

Learning Coach: Often a parent, close relative, or designee of the family, who acts as the “teacher” at home, is typically the person responsible for the daily instruction.

Learning Management System (LMS): The technology platform through which online courses are offered. The LMS generally includes software for creating and editing course content, communication tools, assessment tools, and other features for managing the course.

Merit Pay (or Performance-Based Pay): also known as pay-for-performance, is defined as a raise in pay based on a set of criteria set by the employer. This usually involves the employer conducting a review meeting with the employee to discuss the employee's work performance during a certain time period. Merit pay is a matter between an employer and an employee (or the employee's representative). (United States Department of Labor topic , 2011).

Mobile learning: The use of mobile technologies to enhance learning experiences.

Online course: Any course offered over the Internet.

Online learning (also cyber learning, e-learning, and virtual learning): Education in which instruction and content are delivered primarily over the Internet; online learning is a form of distance learning. The term does not include print-based correspondence education, broadcast television or radio, videocassettes, and stand-alone educational software programs that do not have a significant Internet-based instructional component.

Online learning system (OLS): The technology platform through which online courses are offered. An OLS generally includes software for creating and editing course content, communication tools, assessment tools, and other features for managing the course.

Online teacher: The person who is responsible for instruction in an online course.

Synchronous communication: Communication in which the participants interact in the same time space. There are scheduled on-line meetings with other students, teachers and tutors. Examples are telephone calls, Elluminate™, videoconferencing, chat, and face-to-face instruction.

Virtual Charter School: A school with distance education that is web-based and where students get the information at home. The schools are sponsored by a charter and are considered a state public school.

Whiteboard: A system through Elluminate™ that allows for multiple, simultaneous communication, including audio and/or video over the computer and Internet.

Summary

Virtual schools at the K-12 level are evolving and growing at an extremely fast rate. However, it is imperative that the most highly qualified teachers (Indiana Department of Education, 2011) are teaching in this environment and that they have the characteristics that meet not just the online learning environment, but also the characteristics of the online student learner. Indiana is in its first year of hosting a full-time K-12 online learning environment with virtual schools, and Hoosier Academy Virtual School is one of them; this study presents results from an in-depth look at the characteristics of its teachers and students.

The following chapters will be organized as follows: Chapter Two presents a review of the literature that defines a virtual school, the characteristics of online teachers and characteristics of the online student; Chapter Three presents the research design and methodology used; Chapter Four is a presentation of the data and statistical analyses; finally, Chapter Five details conclusions drawn from the data as well as implications and recommendations for further studies.

CHAPTER TWO

LITERATURE REVIEW

In this chapter a current literature review defines a virtual school, along with the characteristics of online teachers and online learners. In order to respond to the research questions, it became necessary to collect background information and present it through a review of the literature.

Public schools in Indiana and across the nation are in a rapid state of change. Indiana adopted legislation in the summer of 2011 with the passing of House Bill 1002 which cleared the way for and expanded the list of entities eligible to sponsor charter schools (ISTA, 2011). Hoosier Academy, the Virtual Charter School in this case study, is sponsored by Ball State University, in Muncie, Indiana. The purpose of the study was to consider the various types of virtual schools and inquire about their teachers and learners. More specifically, the researcher sought to: 1) Establish those important characteristics, from the teacher's view point of an online teacher and 2) Establish the key characteristics, from the teacher's perspective of the online learner. This was done through a survey where virtual staff members ranked those characteristics that they deemed important for an online teacher and student.

Furthermore, interviews with select teachers at the elementary, middle, and high school levels were conducted to examine more closely those students who are making academic gains and to seek to understand, from the teacher's perspective, what the most important characteristics of those learners. Additionally, a survey was sent to parents to determine why they chose this type of learning environment for their child. Finally, two sets of interviews with staff members

were completed: the first interviews with staff members (four focus groups—two elementary school (K-2) and (3-6), one middle school (7-8) and one high school (9-10)) to further discuss those characteristics that stood out as being important. The second interviews were with those high school teachers of 10th grade students who were performing in the top 10% of their class academically. This was done to gain each teacher's perspective on the important characteristics of successful online students.

Review of the Literature

What is a Virtual School?

Historically, learning opportunities for students in the United States have been limited and shaped by factors beyond their control—one of these being the area of the state where a student and/or school might be located (Lips, 2010). For example, a school might be in a very rural section of the state with a low enrollment; thus, the school would not be able to offer the number of courses that a student might have been afforded in a larger school district. The development of online and virtual learning options is beginning to break down these barriers for students. Looking to the future, with this type of virtual or online learning environment available, each student will be able to receive customized instruction from teachers anywhere across the nation or even the world (Lips, 2010).

Virtual schools are schools with distance education that are run or sponsored by a charter organization and are typically a public school within that state. They are web-based, and students get the information at home or at other designated learning areas where they have computer access (Morgan, 2011). Virtual schools typically fall into one of six categories: **1. State Virtual Schools**, which are virtual schools that are governed by the state education agency or as a nongovernment organization serving the state. **2. Multi-District Virtual Schools**, which are

cyber charter schools and schools operated by education management organizations offering full-time programs at K-12 or secondary levels (Cavanaugh, 2010). Hoosier Academy Virtual School is an example of this type of virtual learning environment. **3. Single-District Virtual Schools**, which are schools that are predominantly operated by large urban school districts as supplemental programs at the secondary level. **4. Consortium Programs**, which are schools that are operated by networks and districts within a state or across states to offer supplemental secondary courses. **5. University Programs**, which are programs that are operated by public or private universities to offer full-time or supplemental programs at the national level on a tuition basis, and finally, **6. Private Or Parochial Virtual Schools** which are schools that are developed as an arm of an existing school or may be fully online—some private virtual schools specialize in serving families with home-schooled students (Cavanaugh, 2010).

Virtual schools can be further divided into the types of learning environments provided to students. *Online Learning* is in a course or school where most or all of the content is delivered online. At least 80% of seat time is replaced by online activity. The delivery of the curriculum in this environment can be presented either synchronously or asynchronously (Wicks, 2010)—meaning that students and teachers can be working together at the same time through an Elluminate™ (online classroom) or working at different times, not in a real-time interaction with each other. *Blended/Hybrid Learning* is learning in a course that blends online and face-to-face delivery. Between 30 and 79% of the content is delivered online. *Web-Facilitated Learning* is learning in a course that uses Web-based technology to facilitate a face-to-face course. Between one and 29% of the content is delivered online (Archambault, 2009).

Why are virtual schools expanding across the country and now, here in the State of Indiana?

In 2009, the U. S. Department of Education published a meta-analysis of evidence-based studies of K-12 and postsecondary learning programs (Means, 2009). The study reported that “students who took all or part of their classes online performed better, on average, than those taking the same course through traditional face-to-face instruction” (Lips, 2010). In 2003-2006, the U.S. Department of Education funded thorough studies of educational technology and online learning (including the West Virginia Virtual School evaluation for the online Spanish course) with control groups in the experimental design, paying attention to the measurement of student achievement outcomes. In the West Virginia Ed Pace study of the Virtual School, students in the online Spanish I courses learned Spanish as well as their peers, and the Virtual School Spanish students outperformed some peers in the Spanish II course. The evaluation further found that Virtual School Spanish students learned valuable technology skills (Patrick, 2009).

The Florida TaxWatch report (2007) published “A Comprehensive Assessment of Florida Virtual School,” examining the value and effectiveness of the Florida Virtual School, which offers online courses and Advanced Placement courses for middle and high school students statewide. Florida TaxWatch is a nonprofit organization, known as the “watch dog” of citizen’s tax dollars. Florida TaxWatch conducts independent research on government expenditures, public policies and programs to increase productivity and accountability of Florida’s government. The Florida TaxWatch’s Center for Educational Performance and Accountability conducted the research to assess whether Florida Virtual School (FLVS) offers a well-organized, taxpayer-accountable alternative and supplemental arrangement of education. A portrayal of the study reads: “The study examined student demographics, achievement and cost-effectiveness, finding that during the 2004-05 and 2005-06 school years FLVS students consistently outperformed their counterparts in Florida’s traditional middle and high schools on such measures as grades,

Advanced Placement scores, and FCAT scores. All FLVS teachers are certified, and their pay is tied to student performance (merit pay), making FLVS the only true performance-based education system in the state. The study also found that FLVS is a bargain for Florida taxpayers; mainly because it has no operating costs related to transportation or construction and maintenance of physical facilities, FLVS is able to offer computer-delivered instruction at a lower per-student cost than traditional schools.”

The four major findings of the study are:

- FLVS makes better use of taxpayer dollars compared to traditional education with results.
- FLVS students perform better than students in traditional classes, based on student achievement.
- FLVS is serving a higher proportion of minority and underserved students demographically statewide.
- FLVS provides a new, more rigorous model of accountability for K-12 public education that is data-rich and performance-driven.

Indiana is now laying the foundation in providing opportunities for students across the state, with educational prospects that have not been in existence through this year. According to the results from a 2010 Public Opinion Survey on K-12 Education in Indiana, 88.3% of respondents supported providing virtual learning to students seeking advanced courses not presently offered by schools. They also supported virtual learning for at-risk students (84.6%) and for those who have dropped out of high school at a level of 71.3%. Residents of Indiana also felt that virtual education is fitting for students to use as a method for credit recovery from courses they have failed, at a level of 58%, and last of all, at a rate of 53.9%, that virtual learning is appropriate for relieving scheduling conflicts in school (Plucker, Spradlin, & Whiteman, 2011). It is through this online or virtual learning that students are able to move away from the face-to-face limitations that are found in brick and mortar environments and be in command of their own learning. Students who fall into categories of at-risk students, elite athletes and performers in the arts, dropouts, pregnant or incarcerated students, and students who are homebound due to illness or injury find online learning to be a perfect fit for them (Watson, 2008). It seems that the potential benefits of online learning are incredibly meaningful. Clayton

Christensen, a professor of business at Harvard University, and his coauthors, Curtis Johnson and Michael Horn, discussed how online learning will reform learning (Christensen, 2008). It is reasonable to expect virtual education to advance learning opportunities for not just Indiana students, but students throughout America in a number of ways, including improved access to high-quality teachers, mass customization and optimization of curriculum and instruction, increased flexibility for students and families, enhanced flexibility for teachers, improved productivity and efficiency, and innovation (Lips, 2010). Also, the ability to offer expanded course offerings for the higher level learner through Advanced Placement(AP) courses was described as being an asset to virtual learning (Revenaugh, 2005/2006).

This new form of education, virtual or online learning, seems to be emerging across the country again for four primary reasons as were explored earlier. Hill (2010) again suggests four major reasons for this expansion.

First, the explosion of technology: Entrepreneurs and technology developers are looking at and working with innovative forms of instruction that provide high quality content with unending support for students at reduced costs, particularly to state taxpayers.

Second, recessions: States and local school districts are faced with a severe decline in revenue and are looking for new ways to present the instruction to the students, given that often school districts find it necessary to reduce in force large numbers of young teachers to pay for their senior teachers on staff.

Third, public sector innovation: School districts, such as New York City, are searching for forms of schooling that coalesce online and face-to-face instruction with the intent of expanding the number of schools making new uses of teachers, technology, time, and student work.

Fourth, a new pledge to attaining standards: The national focus on learning outcomes has changed the entire segment of education from one that is focused on “how and where” students learn to a system focused on “what” they learn.

What is the cost of online learning?

There is conflicting evidence about whether online education is less expensive than traditional face-to-face instruction. The cost of online learning isn't as simplistic as one might think. The assumption would be that online learning would be less expensive as there are no overhead expenses for the physical classrooms or other facilities that school districts typically have. However, hypothetical savings would be offset by the need for “technology” pieces—the hardware, software, and connectivity for classes, ongoing technical support, comprehensive students' support, course development or licensing, or other costs, *especially* during a virtual program *start-up* (Wicks, 2010). An independent study presented in *Costs of Funding of Virtual Schools* (Anderson, 2006) found that operating costs of online programs are about the same as the costs of operating brick-and-mortar schools, especially considering the ‘technology’ pieces along with the support needed for them. That being said, several studies indicate that online learning is *less* expensive than those of the traditional brick-and-mortar environments.

In 2005, The Ohio legislature calculated the cost of its eCommunity™ Schools (their online charter schools). The Legislative Committee on Education Oversight explored five of its statewide online schools and found that they spend \$5,382 per student, compared to \$7,452 per student in brick and mortar charter schools and \$8,437 for students in the traditional, non-charter schools (Zajano, 2005).

In 2008 a survey of 20 directors of full-time virtual charter schools showed an average yearly cost for a full-time online student at \$4,310, (Cavanaugh, Getting Students More Learning Time

Online, 2009) compared to the national average in 2006-2007 per pupil spent of \$9,683 (Fast Facts, 2010).

In 2010, the Alliance for Excellent Education reported that in the state of Wisconsin and the state virtual school system, the average per-pupil cost was \$6,500 compared with the national average in that same year of almost \$10,000 per pupil in a traditional brick-and-mortar system (Wise, 2010).

Several myths came out of the 2008 Michigan Online Learning report regarding costs (Watson, 2008). Specifically, one myth that stands out with regard to cost is online learning is much cheaper than face-to-face instruction. More realistically, the costs of hardware, software, and technology can be equally as expensive as the physical maintenance and associated expenses attributed to a brick and mortar environment. Additionally, many online programs have student-teacher ratios that are similar to or higher than the ratios of traditional brick-and-mortar environment, so this is potentially where cost savings would be greatest.

For the 2011-2012 school year, the State of Indiana provided an estimated \$4,177 per virtual student according to current legislation (House Enrolled Act 1002, 2011). This provides that a virtual charter school's funding is equal to the sum of: (1) the virtual charter school's ADM (Average Daily Membership) multiplied by 85% of the school's foundation amount (rather than 80% of the statewide average basic tuition support, under current law); (2) the total of any special education grants to which the virtual charter school is entitled provides that each school year, at least 60% of the students who are enrolled in virtual charter schools for the first time must have been included in the state's ADM count for the previous school year. In short, Indiana virtual students and schools do not get the same dollar funding that the students and schools receive in the traditional public school environment.

What are those issues and challenges that come with Virtual Schooling?

The onset of virtual school has brought about some issues and challenges. One of the major issues is with regard to the myths and misconceptions. There are several myths and misconceptions that many people still cannot comprehend since virtual schooling at the K-12 level is relatively new, especially in Indiana. According to the 2008 Michigan Online Learning Report (Watson, 2008), myths and misconceptions were accounted for as follows:

Myth—Online learning is just a high-tech version of the old correspondence courses.

Reality—Many online courses are all teacher-led, with a great deal of teacher interaction with students and often, through the online classroom, among students.

Myth—Online students spend all of their time in front of a computer.

Reality—Many of the activities in an online course are actually offline work that include books, paper-based homework or activities, science labs and field trips. At Hoosier Academy Virtual School, students carry out science experiments using the materials that were directly mailed to them from K-12 and are completely offline. Field trips and library outings are offered on a regular monthly basis, offering personal interaction among students.

Myth—Online learning is essentially “teacher-less.”

Reality—Teachers report that they know their students better online than face-to-face due to the frequency of communication they have with the students and the family (Revenaugh, 2005-2006).

Myth—Online courses are easy to pass.

Reality—Just as with a traditional environment, the level of course work difficulty varies from student to student and course to course.

Myth—Students are able to cheat easily in online courses.

Reality—Most teachers who are part of the online environment find that this issue can be handled fairly easily through a combination of teacher practices and technology.

Through the software and the LMS, teachers can assure that students cannot enter an assessment more than once without permission from the teachers; quizzes or exams can be required to be proctored at a 3rd site; plagiarism- detection software can be utilized to check for originality of students’ work and appropriate citation of sources; and state-

mandated tests require students to take assessments in a highly structured and monitored environment.

Myth—Online learning is only good for highly motivated, high-ability students (or conversely, only for dropouts and students in need of remediation).

Reality—Just as in a brick-and-mortar environment, the virtual learning environment serves a range of students from high-ability students to students in need of remediation. Additionally, virtual schooling may be appropriate for students being bullied or students who are identified as special needs, with a program to serve each of those many types of students.

Myth—Online students are isolated from their peers and shortchanged in important socialization skills.

Reality—Many online programs, like Hoosier Academy, offer students several opportunities for field trips, outings and other activities throughout the state.

Other issues surrounding the virtual learning environment involve educational policies and equal access. Educational policies in many states are still geared toward the traditional mode of learning and have yet to fit the virtual learning approach, thus limiting virtual environments and creating some degree of scalability (Wicks, 2010). Equal access also remains a major challenge in the virtual world. Online courses require, at a minimum, student access to a computer, the curriculum, and the Internet. Students from more affluent homes may have greater access to these items, while students with lower socioeconomic status may not have dependable Internet access.

Characteristics of Online Teachers

We are living in a fast-paced, ever-changing world, and education that produces more of the same knowledge and skills will not be sufficient to address the many challenges of the future.

A generation or two ago, educators believed that the content and material they were teaching would suffice to last their students a lifetime. In 2012, because of the economic and social changes that are occurring, schools have to prepare students for jobs that have yet to be fashioned, technologies that have yet to be invented, and problems that have yet to be realized (Schleicher, 2010). What are the important characteristics an online teacher needs to possess to address the many challenges of learning and to equip the students with 21st Century Learning Skills they need to achieve success?

What is the role of the online teacher?

What does an online teacher look like? Fifty-six percent of virtual school teachers have advanced degrees, compared with 48% of all teachers in the United States, giving online students contact to teachers with elevated levels of content knowledge and pedagogic expertise (Cavanaugh, 2009).

The role of the online teacher is much like that of a traditional classroom teacher. However, according to Wicks (2010), an online teacher's role can be broken down into a number of categories, with the student-teacher relationship at the heart of education still (Harms, Niederhauser, Davis, & Doblyer, 2006). These categories can be defined as:

Guiding and personalizing learning: This is where the online teacher guides student learning through the course. This can be done through assessing students' understanding of the objectives of the course, creating and leading group discussions, developing group projects centered around the standards/course objectives, making constant adjustments to course resources by supplementing what is already in the course, and by responding to students' questions and clarifying concepts that they do not fully understand (Wicks, 2010).

Communication is clearly central to instructional interactions, and the online environment provides unique challenges that are not present in the traditional face-to-face classroom. One of

these challenges is that the teacher never “sees” the students live and in person; therefore, communication is essential. Interaction through communication is identified as the primary difference between online and face-to-face instruction and one of the most important aspects of the online setting (Weiner, 2003). One of the central roles of the online teacher in a virtual or online learning environment is that the meaning of *virtual* is being readily available for frequent communication. Communication takes place via several avenues: telephone, e-mail, internal e-mailing, within the online classroom, instant messaging; through submission of assignments or questions/comments within a classroom discussion thread; videoconferencing, or emoticons to express feelings graphically (Harms, Niederhauser, Davis, & Doblyer, 2006). In the online school, teachers must establish “good customer relations” to foster productive discussions about a student’s progress (Ash, 2010). The advantage this environment provides for teachers is that they find themselves getting to know their students better than in the milieu of a traditional brick-and-mortar environment, as the interactions between teachers, students, parents, and colleagues are much more focused on learning and teaching (Muirhead, 2000). Furthermore, teachers find that online learning is much more hands-on than face-to-face learning in that the interactions teachers have are one-on-one, whereby a teacher actually gets to know his/her students much better and in a different way (Ash, 2010).

Assessing, grading, and promoting prove to be fairly consistent along the road of responsibilities between those of a traditional teacher and an online teacher. One difference in the online setting is that technology might help with some automated grading functions, which then allows teachers to spend time in communication and working with children one-on-one, in small groups, or in whole-class instruction within a synchronous online classroom. The teacher works closely with the parents and students at the K-8 level to determine when overall course mastery and completion has taken place, and the student is able to move on to the next level of learning. In the online world this can happen at any time during the school year and can make the transition

more seamless than in a traditional school where the students remain with their age- appropriate grade level peers to the end of the school year. Students should be able to make the move from one grade to the next when “they” are ready.

Jukes (2010) indicates that online learning breaks down those walls and allows students to be very fluid in their learning and to master material at their own pace. With individualized instruction such as one finds in the online learning environment, the delivery of course content can be adjusted to the individual student’s abilities. When this happens, the focus again shifts from age and grade level to the *mastery* of content and skills.

Developing the online course content and structure varies from program to program. Some virtual schools use content that has already been developed by vendors, whereas other virtual schools develop their own curriculum entirely in-house. No matter what type of structure a school might have, the online teacher is still involved and responsible for customizing and enhancing the curriculum and assuring that it is aligned appropriately to the state or national standards. Courses in the online environment differ from the traditional classroom in two ways (except of course for the synchronous instruction where teachers might deliver the material through electronic-style presentations to an entire classroom or small group). Content availability has a distinct difference in that the pre-developed digital content of the online course is available to students 24 hours a day when they are learning online. Lastly, one big difference is content development of online courses, as online programs typically have instructional designers or design teams that are constantly developing courses together in a more formalized way. Updates can be made regularly and schools do not have to wait until the next round of textbook adoptions to recognize those changes.

What are the 21st Century Learning Skills and what is the relevance to online teachers?

“We must recognize that the current education system has been set up to prepare students perfectly for a world that no longer exists” (Jukes & McCain, 2010-2011). Technology has already made virtual relationships a part of our lives. As virtual worlds become more realistic, they will blur the lines between real life and virtual reality William Powers writes in *Hamlet’s Blackberry*, his 2010 book about the impact of technology on contemporary life, “The goal is no longer to be ‘in touch,’ but to erase the possibility of ever being out of touch” (Greenblatt, 2010). Virtual communication with people from all around the world will approach the ease of real-world communications; thus there is a need to empower and provide students today with the technology and 21st Century learning skills they will need to be successful in the world today and tomorrow (Jukes & McCain, 2010-2011). Teachers must be able to envision the opportunities for acquisition and application of new knowledge that exist because technology has become so prevalent in the learning environments, especially now, with online learning and many students having technology at their finger-tips. Teachers must be forced to give up that false sense of control they thought they had over the learning process and to develop new strategies for guiding students not just in learning environments in general, but specifically within the online learning world that then gives students “virtually” unlimited opportunities (Scharf, 2000).

Schools today must guide students for jobs that have not yet been fashioned, technologies that have yet to be invented or conceived, and problems that we do not yet know will occur; consequently, educational success is no longer about reproducing content knowledge, but about exploring from what we know and applying that knowledge to novel situations (Schleicher, 2010).

What exactly is 21st century education? It is something that breaks the current mold of schools. It addresses the rapidly changing world that we are all a part of, that is filled with new and amazing problems as well as exciting new possibilities. Today’s Kindergartners will be

retiring in the year 2072, and we have no idea what the world will look like in five years, much less sixty years from today. The present students are facing many issues such as global warming, famine, poverty, health issues, a global population explosion, and other environmental and social issues. The issues lead students toward a need to communicate, function, and create change personally, socially, economically, and politically, not just on local levels, but on national and global levels (21st Century Schools , 2008). Teachers and schools today need to embrace the emerging technologies and the globalization to provide students with a very specific set of seven survival skills for the 21st century, which are, according to Wagner (2008):

1. Critical Thinking and Problem Solving
2. Collaboration across networks and Leading by influence
3. Agility and Adaptability
4. Initiative and Entrepreneurialism
5. Effective Oral and Written Communication
6. Accessing and Analyzing Information
7. Curiosity and Imagination

One way in which we need to “rethink” schools is to give new definitions to the words “school,” “teacher,” and “learner” that are more appropriate for this century. The schools go from “buildings” to “nerve centers” with walls that are porous and transparent, connecting teachers, students and the community to the wealth of knowledge that exists in the world. Teachers go from the primary role as a dispenser of information to an orchestrator of learning by helping students turn information into knowledge, and knowledge into wisdom (21st Century Schools , 2008). Teachers become more skilled in the science and art of teaching than ever before. Teachers who embrace their roles as leaders of school improvement become teachers who have and use a strong collective voice to ensure that the needs of all their students are adaptively met (Barnett, 2011). Lastly, learners and educators need to realize that student interest must be

maintained by helping them see the purpose for what they are learning. This prepares them for the outside world or “life in their real world.” Educators must instill curiosity, which is fundamental to lifelong learning, and educators must be flexible in how students are taught (21st Century Schools, 2008).

What are the important characteristics that an online teacher should possess?

Traditional brick and mortar teachers and online teachers have many of the same traits; however, in the virtual learning environment, there are specific qualities that an online teacher must possess. The following characteristics are associated primarily with online teaching, according to Kearsley (2004).

- *Providing timely and meaningful feedback*—Online students who are doing well in an online school have teachers who have mastered the art of online communication. Online teachers can use available technology to communicate effectively and efficiently with students and families in a timely manner (Essential Principles of High-Quality Online Teaching: Guidelines for Evaluating K-12 Online Teachers, 2003). Lessons learned from Michigan K-12 Virtual School teachers show that a 24-hour turnaround during the week is what should be expected with regard to responding to students’/parents’ questions or concerns (DiPietro, Ferdig, & Black, 2008).
- *Creating learning activities that engage student*—Online teachers know how to get a student involved actively in his/her own learning. Kayleen Marble, Arizona Virtual Academy lead teacher and writing specialist, found that she was constantly competing with kids who are used to computer games. To pique students’ interests, she needed to add visuals to online lessons such as graphics, video clips, interactive lessons, and using the online classroom to create virtual breakout rooms to work within small groups of students (Ash, 2009).

- *Keeping students interested and motivated*—Michigan Virtual K-12 teachers also found it important to build course components to reflect the interests of students in that course and to be flexible in their use of pedagogical strategies to accommodate varying learning styles. They used multiple strategies to form relationships that support rich interactions with students, motivate students by clearly organizing and structuring content, and embed deadlines within the content structure to motivate students in self-paced courses to complete course requirements. Students should also be provided multiple opportunities to engage content in ways that suit varying learning styles (DiPietro, Ferdig, & Black, 2008). Teachers further found that logging into the course environment very regularly (even of an evening on a teacher's personal time), providing quick replies to student inquiries, and being active in the discussion board are focal ways to maintain student engagement. Students see the teacher working online at all hours and thereby are provided no excuse for not finding ways to get the help they need or complete their work in a timely manner.
- *Ensuring students interact with each other*—While traditional classrooms emphasize teachers' and students' physical presence, online instruction emphasizes active participation by and frequent interaction among teachers and students (Essential Principles of High-Quality Online Teaching: Guidelines for Evaluating K-12 Online Teachers, 2003). Student interaction can be displayed through engaging conversations with course material through the classroom discussion board, through the online synchronous classroom, and through in-person outings or field trips. The value of encouraging these relationships in terms of the social climate formed as a result of these interactions, and the opportunities offered by establishing a community of learners is vital (DiPietro, Ferdig, & Black, 2008).

- *Encouraging students to be critical and reflective*—Just like in the traditional classroom, teachers can foster critical thinking and reflection in the online learning environment when they: provide enough wait time for students to reflect when responding to inquiries; provide emotionally supportive environments in the classroom, encouraging re-evaluation of conclusions; prompt reviews of the learning situation, what is known, what is not yet known, and what has been learned; provide true tasks involving ill-structured data to support reflective thinking during learning activities; prompt students' reflection by asking questions that encourage higher order thinking skills and seek reasons and evidence; provide some explanations to guide students' thought processes during explorations; and provide a less-structured learning environment that prompts students to discover what they believe is important (Chadwick, n.d.).

Below is a detailed look at characteristics of effective teachers from the student's perspective from a study on Students' Perceptions of Effective Teaching in Higher Education (Delaney, 2010). Many of these characteristics are true of online or face-to-face K-12 teachers as well (Smyth, 2011).

ONLINE	FACE-TO-FACE
1. Respectful	1. Respectful
2. Responsive	2. Knowledgeable
3. Knowledgeable	3. Approachable
4. Approachable	4. Engaging

5. Communicative	5. Communicative
6. Organized	6. Organized
7. Engaging	7. Responsive
8. Professional	8. Professional
9. Humorous	9. Humorous

Respect, the most important characteristic from the students' perspective in both environments, is key to reinforcing the importance of effective communication and not waiting for the students to come to the teacher with questions. Online teachers should be proactive in encouraging communication for students to be able to stay on track (Ash, 2009). An interesting note here is that in the comparison between being online and face-to-face, the only descriptors that were different in the order were responsive and engaging. In the online environment being *responsive* was number two, repeatedly showing the importance of communication and interaction with students and being responsive to families' questions or concerns in a timely manner.

What types of professional development opportunities are needed for online teachers?

Teaching online offers challenges for teachers as they remain an integral part of learning for students. In order to successfully teach in a virtual learning environment, teachers need training beyond what is required for a traditional classroom. The iNACOL publication, *Professional Development for Virtual Schooling and Online Learning* (Davis, 2007) stresses the idea that any regular classroom teacher is qualified to teach online, especially if the online course

content that has already been prepared or purchased, is a myth. Online teachers need specific professional development—development which falls into two categories: The first need for development lies in learning the technology and tools of the learning management system. This is fairly clear-cut, as virtual schools and other online programs train teachers, before a class even starts, on all of the online system components. A *train-the-trainer* type model could be explored where a person within the school becomes the local expert and the one who carries out the training and professional development for staff. One important piece of this training is that teachers are able to work through the online classroom from both the teacher and student perspective so that they can experience what it is like to be the online student. Therefore, the online teacher has a sense of the true importance of effective and clear communication. The second area of professional development is online teaching. Researchers studying online learning report in the Essential Principles of High Quality Online Teaching (2003) several key skills for online teachers that should be improved through professional development opportunities:

- Teachers must develop heightened communication skills, particularly in written communication. Online teachers must recognize the tone of their writing and pay attention to the nuances of words, as words can be misconstrued if taken out of context. Students may not fully understand the vocabulary the teachers are using in their writing, so writing for their audience is a crucial thing for teachers to remember.
- Teachers must recognize the different learning styles and adapt the class to them. This can be done by paying special attention to gaining an understanding of each student's skills and challenges in the early days of an online course (also holds true for face-to-face learning).
- Teachers who have students with disabilities must know how to adapt course content and instruction to meet those students' needs. Gaining specific training in technology to work with the visually impaired, hearing impaired with assistive devices in the online

classroom with closed-captioning, or learning disabled students should be part of this training and can come with working directly with a special education teacher or a consultant.

- In asynchronous programs, time management skills are critical for teachers and for students because they can be online at any time.
- In synchronous programs, teachers' planning is an issue, as the lessons taught must have a multi-media component that requires much more planning than is typical for traditional classrooms. Simply using electronic presentations is not an effective way of teaching synchronously online (Kapitzke, 2005) as it would be to utilize electronic presentations with interactive activities involved such as YouTube videos or interactive web-quest links embedded within. Kapitzke & Pendergast (2005) indicated that teacher technology skill was identified as a major factor affecting student success; therefore, professional development is of benefit to not just the online teacher but the student as well. Moreover, with regard to technology, the National Education Technology Plan (Education, 2010) further seeks to bring a transformation in teaching from working mostly in isolation to a model of "connected teaching," where teachers are connected not just to students but to professional content, resources, and systems that empower them to create, manage, and assess engaging, relative learning experiences both in and outside the school.
- Finally, teacher education programs need updating so that they can address not just the pedagogical issues in traditional environments, but also aspects of online pedagogy. Part of this change is that states could model their revisions after the pioneer states with regard to standards for K-12 online teachers (Dawley, 2010). Idaho, for example, has developed ten state standards specifically directed toward K-12 online teachers. Classroom management changes in an online setting, and best uses of modern technological tools (those requiring 21st Century Learning skills) to convey content and

assess student understanding should be the aim of leading and innovative colleges of education (Archambault, 2009).

Characteristics of Online Students

Bill Gates' (1999) 12th rule for business at the speed of thought is to "use digital tools to help customers solve problems for themselves." Doug Henton further describes the three types of knowledge important to today's economy: Know-what, Know-how, and Know-who. He suggests that while everyone has access to the Know-what, "what really matters most in the new economy is Know-how and Know-who" (Group n.d.). Virtual education has the ability to further enhance these rules and "know's" beyond what the traditional brick-and-mortar setting can offer, as students have the technology at their fingertips all day long, guided by teachers, learning coaches and their peers.

It is essential to examine two key questions: what are the important characteristics that an online student should possess, and what are the recommendations or guidelines for identifying those students who would find an online learning environment more in line with their own learning style?

What are the important characteristics that an online student should possess?

Determining the characteristics and educational needs of the online learner may not necessarily guarantee success in a virtual education program (Galusha, 2007), but it could significantly help administrators, teachers, and instructional designers understand three things: (a) Who is likely to participate in online learning? (b) What factors or motivators contribute to a successful online learning experience? (c) What potential barriers would deter some students

from participating in or successfully completing a virtual education program (Dabbagh, 2007)? Virtual schools can provide a quality learning experience to a more “bimodal” range of students than do most traditional schools, bringing in a larger portion of students who are either academically accelerated and/or who have not been successful in a face-to-face traditional environment (Barker, 2001). It is also known that virtual schooling is not for every student. This mode of learning requires parents and/or a learning coach to be able to devote a great deal of time to helping their children. At the high school level, students are expected to learn more independently, which requires self-discipline (Butler, 2010).

These are the most important characteristics that students need to find academic growth and involvement within the online learning environment according to Dabbagh (2007), Weiner (2003) and Kircher (2001):

- *Self-motivated, self-directed, and self-starting*—Online learning provides a great deal of flexibility in being able to access the course and/or teacher at any time via the Internet or telephone—staying motivated and self-directed with the help of the parent/learning coach will ensure the student doesn’t fall behind in the coursework
- *Computer and technology literate*—A student and the parent/learning coach do not have to have advanced computer skills, but it’s helpful to start an online learning situation with basic keyboarding skills, basic knowledge of word processing software, basic knowledge of troubleshooting, ability to send/receive e-mails, and a basic understanding of Internet searches (Characteristics of successful online learners n.d.).
- *Visual learner*—Meyer (2003) found that students who are visual learners are more successful in the online environment than are those with aural and/or kinesthetic learning styles. Those with visual learning styles are able to process new information best when it’s visually illustrated or demonstrated through the use of multiple graphics to help them process text-based information (Summers, 2000).
- *Have parent support and/or Learning Coach Support*—A parent/learning coach is required to oversee the student’s academics, and be involved with participation in the online learning environment, so having a support person with the time to dedicate to these tasks is crucial to the student’s academic performance and growth.
- *Has appropriate writing and reading skills for online learning*—Students must use electronic e-mail or internal k-mailing to communicate with their instructors or other school staff. Therefore, it is critical that the student have the ability to write clearly or have the support of the parent/learning coach to be able to write clearly in order to communicate ideas and assignments. Additionally, being able to inform teachers or

school staff of any concerns or problems is key to a student's academic success (Recommendation for Full-time Online Learners, 2010).

- *Involvement in non-academic activities*—Students in an online learning environment are provided with multiple opportunities to be involved socially with other students through field trips, planned outings, library days, online clubs, nationwide sponsored clubs such as chess club (Revenaugh, 2005-2006), school newspapers, student council, or even outside of school through sports, activities at the local library or YMCA, local church group, etc.
- *Personal commitment*—A great deal of communication is involved with online learning since there is no face-to-face time with teachers. Therefore, in order to gain academically, a commitment to proactive communication is necessary. In addition to communication, since there are no bells that begin and end classes, students and parents/learning coaches must have a strong desire to learn and achieve knowledge and skills via the online learning environment. Making a *commitment* to learn is a very personal decision and requires a strong sense of *dedication* to participate in order to achieve academic growth and success (Recommendation for Full-time Online Learners, 2010).

The above characteristics, again, do not guarantee students success in this type of learning environment; however it is important that these characteristics are in place before students and their parents consider enrollment in a virtual learning program.

What types of recommendations or guidelines should be in place to identify those students who would work best in this learning environment?

In January, 2010, Michigan Virtual University provided six basic guidelines that pertain to students who take a majority or all of their coursework online. This was done to help the student and family as they carefully and thoughtfully consider the decision for online learning (Recommendation for Full-time Online Learners, 2010).

School administrators should work with their school boards of education to develop and adopt an appropriate policy or policies related to the use of online learning.

1. Students successfully complete a single online course before enrolling in multiple online courses in a given semester or school year (depending on the course).
2. Schools use a decision-making support process to determine how to best support online learners, especially those students who are full-time online learners. This

process may include a readiness rubric for online learning (see Appendix A) that identifies key factors to consider in the planning and decision-making process. The rubric is broken into eight different areas: (a) technology skills; (b) study and work habits; (c) learning style; (d) technology/connectivity; (e) time management; (f) student interest/motivation; (g) reading/writing skills; and (h) support services.

3. The school should develop an internal support structure that provides assistance to students and parents/learning coaches as they embark on this online learning program. Support can range from the enrollment and registration process, to counseling/advising services, mentoring assistance from a current parent in the program, and a homeroom teacher who is well versed in the systems to be able to provide any type of assistance from academic to systems questions.
4. A data collection process to assess student completion and achievement results in online courses should be created. For example, annual surveys may be used to gather information about the student's and parent's/learning coach's experiences as an online learner so that existing support systems can be continuously improved.
5. Students should be provided opportunities at the elementary and middle school levels to gain experience with online resources and become independent learners before reaching high school.

Furthermore, another tool to consider using, especially with regard to future high school students, is a high school Internet education survey (Appendix B) that was developed by Roblyer (2003). One can see that a closer inspection of this instrument, even though it may not be all encompassing, can be an indication of the possible success of an online student. It certainly can be a good *screenener* as to who might or might not be successful in this virtual learning environment. This screener, however, is targeted towards high school students, while the

screeners being proposed as an outcome of this study is a general screener that would be applicable to all students.

Summary

This chapter provided a review of the literature on the types of virtual schools, is; the characteristics of online teachers; and characteristics of the online student. Chapter Three will discuss the methodology that guided this analysis.

CHAPTER THREE

METHODOLOGY

A mixed methods approach was chosen for the methodology. The chapter will be presented in the following order: the research questions being examined; hypothesis; a description of the sample; the research design; the instruments used; the data collection; the data analysis; and the limitations of the study.

The focus of the study was to determine the essential characteristics of effective on-line teaching from the teacher's perspective and to determine, from the teacher's perspective, those essential characteristics of the on-line learner.

Research Questions

The following research questions were addressed in this study:

1. In an Indiana Virtual School, what are the important characteristics of online teachers according to the teachers?
2. In an Indiana Virtual School, what are the important characteristics of online learners according to the teachers?

Hypothesis

1. Null Hypothesis: It was hypothesized that gender would not be a variable on how they would rate teacher and student characteristics.

Alternative Hypothesis: It was hypothesized that teachers would rate different characteristics important based on their gender.
2. Null Hypothesis: It was hypothesized that role would not be a variable on how teachers and administrators would rate the teacher and student characteristics.

Alternative Hypothesis: It was hypothesized that teachers would have differing opinions from administrators as to how they valued important teacher and student characteristics.
3. Null Hypothesis: It was hypothesized that grade level would not be a variable on how elementary; middle and high school teachers rated teacher and student characteristics.

Alternative Hypothesis: It was hypothesized that elementary teachers' would have differing opinions from middle or high school teachers' as to how they valued important teacher and student characteristics.

Description of the Sample

The virtual school in this study is in its first year of existence as a Virtual School (non-pilot program) and has rapidly become the largest virtual charter school in the State of Indiana.

The virtual school consists of 72 teachers, five administrators from Head of Schools to Building Level Leaders, 968 students at K-6, 542 students at 7-8, and 752 students at 9-10. Other specific demographics were not fully available at the time of this study from the Indiana Department of Education, as the school has not completed any state-required standardized testing to date, and no data specifically for the virtual school exists within the department. The student population has students from all 92 Indiana counties (Appendix C) with the total student population as of March 1, 2012, of 2,262 students. The virtual staff consists of a total of 77 people, 17 of whom are male and 60 of whom are female. Staff is from areas all around the state such as South Bend, Valparaiso, Lowell, Indianapolis, Muncie, Corydon and New Albany.

Quantitative Sampling Method

The sample consisted of a population of teachers and administrators who were employed as staff members at Hoosier Academy Virtual School, Grades K-10, during the 2011-2012 school year at the time of the survey. All 77 staff members were sent an e-mail (Appendix G) with the survey link (Appendix H). Respondents were asked to complete and return the survey by March 17, 2012, which provided the staff one week to complete the survey. A second e-mail was sent three days following the initial contact as a reminder to complete the survey, with a goal set of 90% or better of returned surveys.

The sample for the parents' survey was the population of parents whose children were enrolled at Hoosier Academy Virtual School at the time of the survey, which was March 1, 2012. All 2,262 families were sent an internal e-mail (Appendix I) with the survey link, shown in

Appendix J, to be completed and returned by March 17, 2012. This gave the participants one week to complete the survey. A second internal e-mail was sent three days following the initial contact as a reminder to complete the survey, with a goal set of 30-40% or better of returned surveys.

Qualitative Sampling Method

The sampling method for the teacher interview consisted of the total population of teachers who were employed at Hoosier Academy at the time of the interview. The sample size included 15 teachers or academic advisors at the high school level, one from each grade level K-10 in addition to four other high school staff members, who were sent an e-mail requesting their time for a personal, one-on-one, focused interview (Tellis, 1997). The interview entailed a discussion of particular students from each teacher's homerooms who were making academic progress, and chief characteristics were identified. Finally, 10th grade teachers were interviewed who were working with students at the top 10% of their class to detail the characteristics associated with high academic performance.

Research Design

A mixed-methods design was chosen for this research in the collecting and analyzing of data with a mixture of qualitative and quantitative approaches (Creswell, 2006). The approaches that were chosen were two surveys (one of staff and one of parents), further supported by personal interviews with teachers.

A Tailored Design Method, (Dillman, 2007) is widely recognized as the state-of-the-art method for maximizing survey response rates. Dillman's method is based on extensive research about what is needed to improve response rates when utilizing Internet surveys (Rosenbaum, 2007). Dillman also indicates that certain populations, such as those employed by federal or even state government, generally have an Internet e-mail address and access (Dillman, 2007). Thus, this type of survey is most appropriate and convenient. Rosenbaum and Lidz (2007) suggest that the Internet survey has a number of advantages:

- Fewer steps for the respondents: When using a survey site such as SurveyMonkeyTM, which was utilized in this study, submission of the survey is online with a link to guide respondents to the survey and a button to submit it. There is no need to mail the survey back or to coordinate a face-to-face interview.
- Cost-effective: a monthly membership to SurveyMonkeyTM made it a cost-effective alternative to mailing out a survey and providing return postage.
- Automated: SurveyMonkeyTM has the ability to collect the data, organize it, and track who has taken the survey and who refused.

The Internet surveys were developed with a mixture of multiple choice and open-ended questions.

A combination of personal interviews with select teachers was also part of the data-gathering process. These interviews were in the form of focus groups or individual interviews, based on the staff member's personal availability. The focus groups gathered teachers from elementary, middle and high school levels to be a part of the interview process to further explore the traits or characteristics online students possessed. Another set of interviews was conducted with 10th grade teachers. They were asked which characteristics were associated with students performing in the top 10% of their class. The reason for using 10th graders was that it was the highest grade level offered during the 2011-2012 school year within the virtual school.

The Instruments

Surveys

The first instrument, shown in Appendix H, was developed to collect data about the characteristics of teachers and students in the virtual learning environment. The survey was developed through literature reviews and an appropriate evaluation to coincide with the specific questions guiding this research. The survey was comprised of questions that included demographic information, questions that focused on the characteristics of teachers and students, as well as questions that asked about specific training that those teachers might have received or wanted/needed to receive through professional development to further improve their position as virtual teachers. There were 22 items in the final form of the survey instrument, which was reviewed by a juried panel of experts who were as follows: Dr. Edward Lazaros, Assistant Professor at Ball State University in Muncie, Indiana; Mrs. Cindy Wright, Ed. S., Middle School Teacher (former virtual school teacher); Mr. Andy Anderson, middle school principal in Illinois; Mrs. Janice Brown, behavior resource for Yorktown Community Schools as well as a resource teacher at Yorktown Middle School; Mrs. Misty Novak, retired middle and elementary school

teacher, co-author of two children's books and four teacher's resource books and currently working on publishing her first novel; Mrs. Debra Berry, high school business education teacher; and Mr. Ryan Dibala, graduate research/teaching assistant at Ball State University, currently working on his Master's thesis (See Appendix D for a more detailed description of the panel). The jury members were sent the two e-mails (Appendices E and F) soliciting their input and helping with the surveys and the interview questions. Those items, reflecting feedback from the panel, were placed in a common format within SurveyMonkey™ for the purpose of the study. The 22 questions were organized for the staff survey as follows:

- Questions 1-3 addressed the gender, age, and highest degree earned of the participants.
- Questions 4-9 referenced participants' particular job, ZIP code location, experience of the participants' total years' teaching/administration, total experiences within the virtual environment, the level the staff member was working at, and any specific training the participant received in preparation for the virtual environment.
- Questions 10-11 pertained to the characteristics of teachers, using a Likert Scaling
- Questions 12-13 related to the characteristics of students within the virtual environment; these questions also utilized a Likert Scaling.
- Questions 14–15 related to the participant's total hours of preparation of teaching and actual hours of teaching online.
- Questions 16-22 began the open-ended questions, which pertained to what led the participant to teach/administer online, how they obtained their current position, a description of their role working online, comparison of the experiences in a brick and mortar environment with those of the virtual environment. Other questions requested specific characteristics that one should have working in the virtual teaching world, what types of training one should have before teaching in an online classroom, what types of

professional development one would like to have as a current teacher teaching online, and lastly, what characteristics should a student have to be successful in the virtual learning environment.

The parent survey (Appendix J) was comprised of five questions organized in a common format within SurveyMonkey™. They were as follows:

- Question 1 addressed the respondent's age category.
- Question 2 reflected the respondent's own educational background with the highest degree earned.
- Question 3 asked for the parents to identify what learning environment their child was in prior to coming to Hoosier Academy Virtual School.
- Question 4 pertained to the main reason for the parents to choose this virtual school.
- Question 5 asked the parents to rate their experiences with Hoosier Academy Virtual School to date.

Both survey instruments were sent to the juried panel of experts for further examination. Suggestions were gathered from the panel for changes in structure of the surveys, and they were asked to complete the surveys. They then were sent the same survey links to retake the surveys to assess the reliability of the instrument. The responses were very consistent between the two submissions.

Interviews

A grounded-theory approach was utilized with the interviews where a common theme or category might stand out (Glaser, 2004). To gather the information needed, an interview questionnaire was developed for teachers consisting of four open-ended questions with two additional questions that were specifically for those teachers working with 10th graders in the top

10% of their class. Teachers were chosen from the total population who were employed as of March 1, 2012, at Hoosier Academy. The population size identified included 15 teachers or academic advisors at the high school level, one from each grade level K-10, in addition to four other high school staff members. All were sent an e-mail requesting their time for a small-group or personal/one-on-one, focused interview (Tellis, 1997) to discuss particular students from their homerooms who were making academic progress and to determine specifically which characteristics were associated with academic success. Michael Patton (2002) describes that the information gathered from the focus groups would be organized into major categories that would surface in the interviews. The focus group interview is an interview with a small group of people on a specific topic. A group is typically composed of six to eight people, and they participate in the interview for one half-hour to two hours. However, the focus grade level groups presented in this study are smaller groups, sorted by grade level, with two to five participants. The focus group interview is indeed an *interview*. It is not a discussion. It is not a problem-solving session. It is not a decision-making group. It is simply a time when questions will be posed to each individual in the focus group and all participants will respond. The participants were asked to expand on anything they heard from the others or anything else they would like to add, and then any final remarks were made on each question before moving on to subsequent questions.

Typically, participants are a relatively homogeneous group of people who are asked to reflect on the questions that the interviewer poses. Participants get to hear each other's responses and to make additional comments beyond their own original responses as they hear what other people have to say. It is not necessary for the group to reach a consensus, nor is it necessary for people to disagree. "The objective is to get high-quality data in a social context where people can consider their own views in light of the views of others" (Patton, 2002). The described format is

the one that was chosen to follow for each of the group interviews. A pilot group was conducted to refine the questions.

Finally, one set of interviews was conducted with 10th grade teachers. They were asked which characteristics were associated with students performing in the top 10% of their class. The interview questions were developed with input and feedback from the juried panel of experts to ensure that the questions being asked were in alignment with the purpose of the study:

The interview questions for the teacher focus groups were developed as a semi-structured open-ended type. According to Tellis (1997), an open-ended interview as part of the qualitative portion of the mixed-methods approach (Creswell, 2008) will allow the respondents to comment about certain events where they may propose solutions or provide insight. They may also corroborate evidence obtained from other sources. The interview questions are as follows (some of them were taken directly from the staff survey for teachers to be able to expand on):

1. What are the important traits that you believe a student, enrolled in the program of virtual schooling at your particular level, must possess to make academic progress or growth?
2. Based on your virtual experience thus far, what essential traits must any teacher possess who is looking to make a move into virtual schooling?
3. What can you tell me about those students exhibiting academic growth? Do any specific traits stand out to you as significant or worth noting?
4. Is there anything that I haven't asked that you think I should have which may be relevant information for my study?

Questions five and six are specifically for those 10th grade teachers who are working with those 10th graders in the top 10% of their class.

5. Based on your experiences as a high school teacher working with these specific 10th grade students, what is it that makes these students so successful in this learning environment?
6. What have you specifically done to encourage or further develop the traits that you see as significant in this group of students?

Data Collection

The survey link to SurveyMonkey™ was e-mailed directly to each teacher and administrator within Hoosier Academy Virtual School on March 11, 2012. The body of the e-mail explained the study, referenced in Appendix D. In an effort to achieve the highest response rate, the same e-mail was used as a follow-up reminder to ensure that everyone received the e-mail and was able to complete it by March 17, 2012. This gave participants approximately one week to complete the survey. A target response rate of 90% was set.

The survey link on SurveyMonkey™ was internally e-mailed to each parent who had a child currently enrolled with the Hoosier Academy Virtual School on March 11, 2012. The body of the e-mail provided an introduction of the researcher and an explanation of the study, referenced in Appendix I. A target rate of 30-50% was established for the parent survey.

The interview instrument was open-ended and through focus groups with elementary, middle, and high school teachers; another set of interviews (with the addition of two questions) was conducted with 10th grade teachers.

Data Analysis

Descriptive statistics were used to analyze the quantitative data of the study. Frequency distributions were displayed using tables and figures (Trochim, 2006). The data were examined more closely by looking for bivariate relationships and correlations that were significant.

Independent sample *t*-tests were used to examine differences in the categories of gender and role paired with each of the teacher and student characteristics. A subsequent one-way ANOVA was performed to assess differences for the category of grade level paired with each of the traits of teachers and students.

The responses of the focus groups' interviews and from the open-ended questions from the surveys were summarized and then categorized by the researcher (Glaser, 2004). This was used to provide support for the quantitative findings from the staff survey.

Limitations of the Study

The following were limitations of this study:

1. Not everyone who was issued a survey responded; therefore there was a smaller data set than originally anticipated.
2. Because most participants had already been working in the virtual environment by choice, teacher bias may have influenced their responses in the survey and interviews.

Summary

This chapter provided an overview of the methodology involved, from the design through the limitations of the study. Primary data collection involved administering a survey to virtual staff members who rated the characteristics they deemed important for an online teacher and student to possess. Additionally, interviews with select teachers at the elementary, middle, and high school levels were conducted to analyze teacher-based opinions of the important characteristics associated with their students' academic success. Additionally, a survey was sent to parents to determine why they chose this type of learning environment for their child. Finally, four sets of interviews took place with staff members. These were in the form of four focus groups consisting of two elementary school (K-2 and 3-6), one middle school (7-8), and one high

school (9-10) group where staff members discussed what they thought to be the essential characteristics for success. Second, one set of interviews was conducted with 10th grade teachers. They were asked which characteristics were associated with students performing in the top 10% of their class.

Chapter Four begins the presentation and interpretation of the data along with an in-depth presentation of the quantitative and qualitative data.

CHAPTER FOUR

RESULTS—PRESENTATION AND INTERPRETATION OF THE DATA

A variety of techniques were used to derive results presented in this study. Hereafter, a brief overview of the purpose of the study is presented along with sampling methods, research questions and descriptive characteristics rated by survey respondents. Additionally, results of research findings are depicted in table and narrative formats. Independent sample t-tests and one-way ANOVA's were used to analyze differences in the means of survey responses. Qualitative data are presented in the form of tables and figures, and in many instances, written summaries of the open-ended responses from the staff survey and focus group interviews are presented.

Research Questions

Below are the two research questions that drove the overall study:

1. In an Indiana Virtual School, what are the characteristics that teachers deem important for virtual school teachers?
2. In an Indiana Virtual School, what are the important characteristics that teachers deem important for online students?

Purpose of the Study

The purpose of the study was to lay the foundation for the various types of virtual schools while investigating attributes of its teachers and learners. More specifically, the researcher wanted to: 1) Determine key characteristics, from the teacher's perspective, of an effective the online teacher and 2) Determine, from the teacher's view point, key characteristics of the online learner. A survey was administered to all virtual staff members who were asked to rate characteristics deemed essential for an online teacher and student. Interviews with select teachers at the elementary, middle and high schools were conducted to further examine the academic advancement of the students. Gaining the teacher's perspective was essential in understanding necessary traits for academic student progress.

Interviews with staff members were conducted in two formats:

1. Four focus groups were formed. This included staff members from: elementary (K-2), elementary (3-5), one middle (7-8) and one high school (9-10), to further discuss characteristics that stood out as important traits from their perspective.
2. An interview with high school teachers working with 10th grade students, who performed in the top 10% of their class academically, was conducted.

Obtaining those teachers' unique perspectives was acquired to supply important information on the relationships between student traits, learning environments, and relative performance.

Finally, as the last piece of data collection, a survey was sent to parents. The purpose of this survey was to establish why this learning environment was selected for their child.

Sampling of staff:

The staff sampling was comprised of the total population of teachers and administrators who were employed at Hoosier Academy Virtual School, (Grades K-10) during the 2011-2012 school year, at the time of the survey. All 77 staff members were e-mailed (Appendix G) with the

survey link, exhibited in Appendix H. Respondents were given approximately one week to complete the survey. A second reminder e-mail was sent three days following the initial contact. A goal was to obtain a survey response rate of $\geq 90\%$. Forty-seven staff participated in the study for a response rate of 61%.

An interview sample was selected from the school population of teachers employed at Hoosier Academy during the 2011-2012 school year. The sample included 15 teachers and academic advisors at the high school level, one from each grade levels K-10. Additionally, high school staff members were invited, via e-mail, to participate in personal, one-on-one, focused interviews (Tellis, 1997) to discuss particular students from their homerooms who were making academic progress. The objective of each interview was to garner each teacher's opinion as to which characteristics were most common among students who displaying academic growth. Staff members were selected first, by choosing those previously employed by Hoosier Academy Virtual School, and/or those who were first hired in July 2011; and staff members were then selected based on how long they had been employed

Sampling of Families:

The sampling of parents included the total population of families whose children were currently enrolled at Hoosier Academy Virtual School at the time of the survey. The population size identified as of March 1, 2012 was 2,262 families, each of whom was sent an internal e-mail (Appendix I) with the survey link (Appendix J). Respondents were asked to complete and return the survey by March 17, 2012. This provided all participants approximately one week to complete the survey. The goal was to obtain a survey response rate of $\geq 30\text{-}40\%$. A total number of 502 parents participated in the survey for a response rate of 22%.

DEMOGRAPHICS OF PARENTS AND STAFF

Parent Demographics

Table 1 illustrates the demographics of the 502 respondents to the parent survey.

Observe that the majority of respondents were between ages 30-39; had a high school diploma; and previously sent their child to a public school before attending HAVS. Table 1 (Table reads vertically)

Parent Demographics

Age		Highest Degree		Previous Learning Situation	
18-29	5%	High school diploma	46%	Charter School	4%
30-39	42%	Associates	22%	Private School	5%
40-49	39%	Bachelors	15%	Home School	26%
50-59	13%	Masters	6%	Public School	65%
60 or older	1%	Post-Doctorate	1%		
		Doctorate	1%		
		Other	10%		

Data was compiled from the parent survey listing specific reasons students enrolled Hoosier Academy Virtual School. Figure 1 provides a summary of those results.

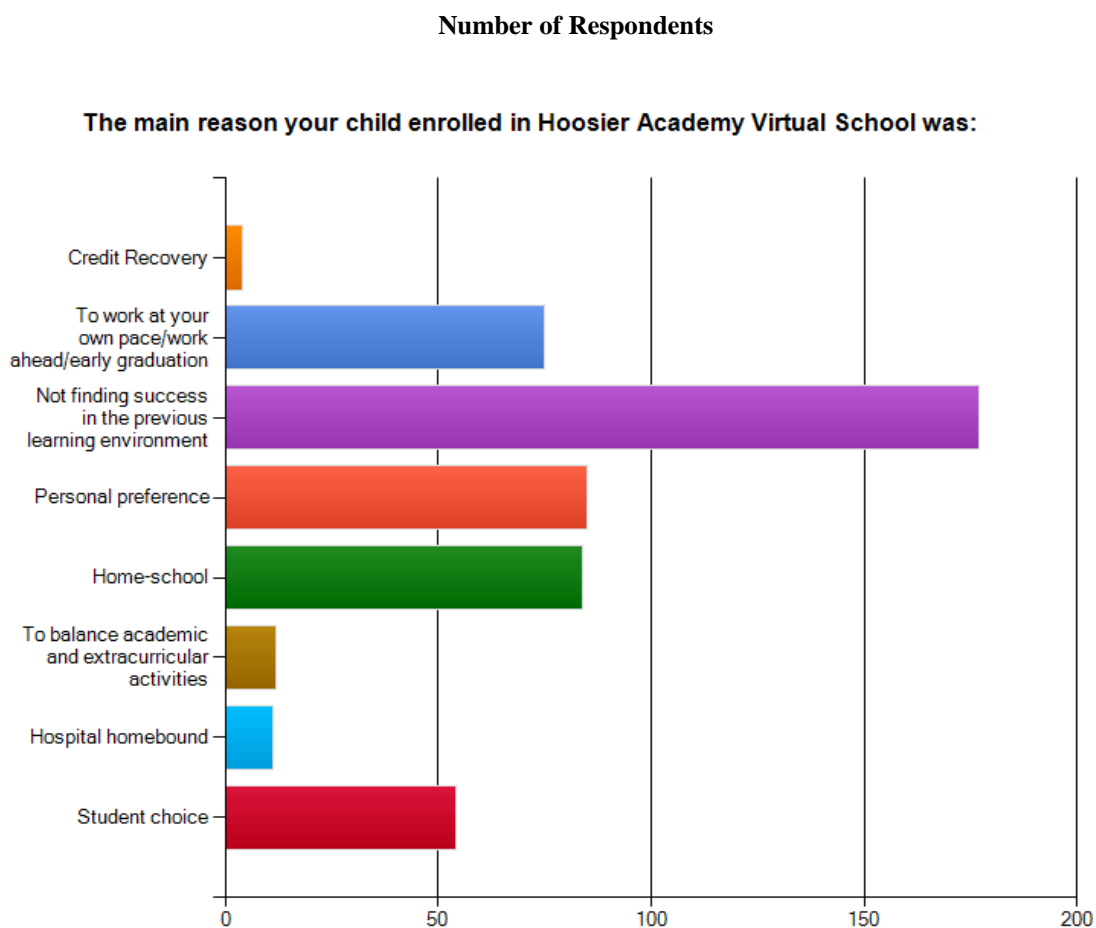


Figure 1. Parents Reason for Enrollment in HAVS. This figure illustrates the main reason thirty-five percent of parents (or 177) selected HAVS was due to their child's lack of success in their previous learning environment. Within the survey, parents were given the option to choose "Other," but needed to specify their reasoning as to why they enrolled their child in HAVS. Within the "Other" category, twenty-five percent of parents indicated that their child was bullied in their previous learning environment. Additional reasons from within the "Other" category include reasons such as: medical issues or lack of access to high performing neighborhood

schools. Thus, from this question within the parent survey, parents are actively seeking educational alternatives for their children, such as virtual schooling.

Staff Demographics

A total of 47 staff members responded to the survey for a response rate of 61%; however, not all 47 responded to every question (46 out of the 47 responded the “Gender” question and 44 out of 47 responded to the “Total Number of Hours Spent Per Course Each Day Teaching On Line). The majority of the staff who responded to the survey were under age 40 (72%), had a bachelor’s degree (60%), in their first five years of total teaching experience (32%), and first-year staff members at the virtual school for the 2011-2012 school year (21%). Proportionately, the grade levels were represented as: Elementary (K-6) 43%; Middle (7-8) 19%; and High School staff members (9-10) 38%.

The following relates to one of the questions on the survey about specific training staff members had before coming to the virtual school.

Did you have any specific training to teach specifically for the virtual environment?

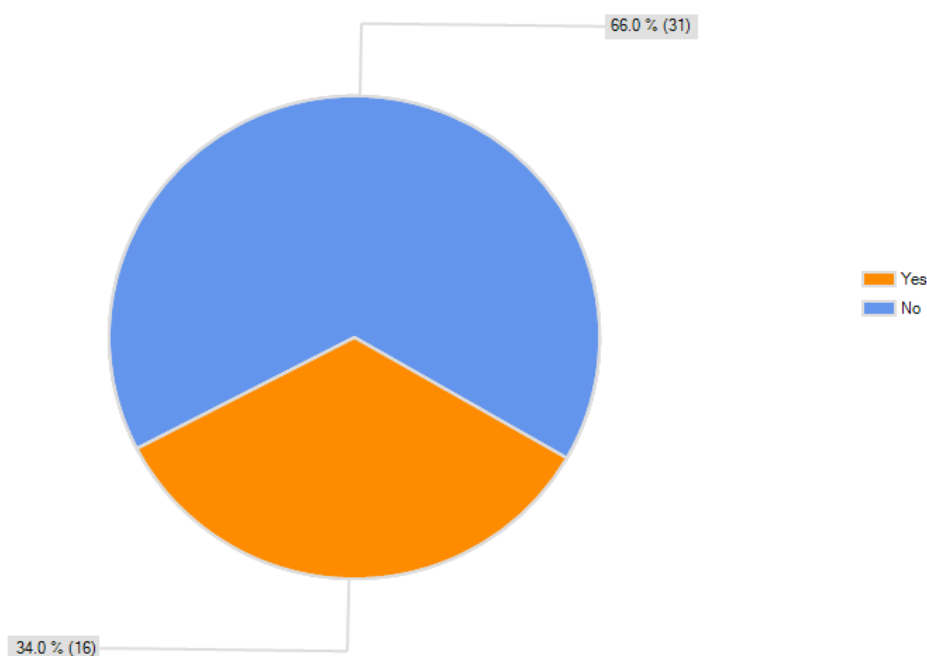


Figure 2. The pie chart illustrates that the majority, (66% of the staff) received no formal training. Of the 16 respondents, who answered yes, a few staff members described the types of training they received. Three staff provided additional information, beyond their initial training at HAVS. Responses were: a) background in Technology Education at the college level (both undergraduate and graduate level); b) previous experience teaching in an online environment before coming to HAVS; and c) former experience as an undergraduate with Blackboard and Elluminate™. This question demonstrates the high need for a well-structured professional development program in the areas of best practices and technology training specific to teaching in the virtual environment.

SURVEY RESULTS OF TEACHER AND STUDENT CHARACTERISTICS

Teacher Characteristics

The following information specifically depicts the results of the staff survey where they rated each of the characteristics of teachers. Overall, the top three characteristics, from the staff survey, rated as most important were: *communicative* (89%), *responsive* (81%), and *manages time well* (77%). There were no characteristics rated as “not important at all.”

Tables 2 through 4 represent the results to the survey comparing the means of the characteristics HAVS teachers deemed important for successful online instruction. The starred (*) numbers in each of the tables are the characteristics, by category, that showed significance after the independent sample *t*-tests or one-way ANOVA.

Specifically, the researcher focused analysis on: 1) gender, 2) the role or position (teacher vs. administrator), and 3) grade level. These three demographics were analyzed in relation to desirable teacher characteristics. The survey utilized a five point Likert Scale rating ranging from 1-5 representing *not important at all* to *extremely important*.

Means for all characteristics derived for each of the three demographics were compared. An independent *t*-test was used to compare responses for gender and role and a one-way ANOVA was used to test for differences between all three for grade levels. All statistical tests were conducted with $p < .05$.

Statistically Significant Results by Demographics

Gender: According to Evans and Tribble (1986), female teachers, regardless of teaching specialties, acknowledge a significantly stronger sense of teacher effectiveness and commitment to teaching than to their secondary and male counterparts. Based upon this difference, the hypothesis of teachers rating different characteristics important based on their gender, was supported. For gender response to the characteristic entitled *commitment to teaching*, male staff members regarded *commitment to teaching* as being significantly more important than did females $t(44) = -3.34, p = .002$. This result rejects the null hypothesis, showing that male staff members put a greater value on a teacher having a *commitment to teaching* more so than female staff members. It is recognized that only 10 males responded to the survey creating a low response rate that may not be reflective of all male staff members; therefore, a potential for bias.

Table 2

Mean Values for Teacher Characteristics that Staff Members Deemed to be Important by Gender. (5=Extremely Important; 1=Not important). Starred numbers are the mean values that have significant difference.

Characteristics	Gender	
	Male	Female
	<i>N=10</i>	<i>N=36</i>
Communicative	4.90	4.89
Committed to teaching	*4.90	*4.36
Organized	4.70	4.47
Responsive	4.70	4.83
Approachable	4.70	4.56
Engaging	4.70	4.58
Motivated and enthusiastic	4.70	4.61
Open to suggestions	4.70	4.28
Manages time well	4.60	4.78
Flexible	4.60	4.67
Patient	4.60	4.58
Demonstrates creativity	4.50	4.10
Respectful	4.40	4.58
Student-centered learning	4.40	4.31
Encourages students critical and reflective	4.30	3.89
Ability to Differentiate lessons	4.10	4.22
Takes risks	3.90	3.69
Ensures student interaction with other students	3.60	3.64

Role: According to a study by Issam Mansour (2011), it is clear that principals need the ability to manage their time well setting short-term plans that depend on long-term goals to be achieved. Based upon this finding, the hypothesis administrators would have differing opinions from teachers as to how they valued important teacher and student characteristics based upon their role was supported. For role response, *manages time well*, administrators regarded *manages time well* as being significantly more important than did teachers $t(45) = 3.65, p = .001$. This finding also rejected the null hypothesis. It is recognized, however, that only two administrators responded to the survey creating a low response rate that may not be reflective of all administrators; therefore, a potential for bias.

Table 3

Mean Values for Teacher Characteristics that Staff Members Deemed to be Important by Role/Position (Teacher or Administrator). (5=Extremely Important; 1=Not important). Starred numbers are the mean values that have significant difference.

Characteristics	Role/Position	
	Teacher N=42	Admin. N=5
Communicative	4.88	5.00
Responsive	4.81	4.80
Manages time well	*4.71	*5.00
Flexible	4.69	4.40
Engaging	4.67	4.20
Approachable	4.62	4.40
Motivated and enthusiastic	4.62	4.80
Patient	4.62	4.40
Respectful	4.55	4.60
Organized	4.52	4.60
Committed to teaching	4.48	4.60
Open to suggestions	4.36	4.60
Demonstrates creativity	4.30	3.80
Student-centered learning	4.29	4.80
Ability to Differentiate lessons	4.14	4.80
Encourages students critical and reflective	4.00	4.00
Takes risks	3.71	4.20
Ensures student interaction with other students	3.67	3.60

Grade level: Small group instruction is used more frequently in lower elementary classrooms while differentiating teaching and practice in small groups is less common in middle and high school classrooms (Gibson, 2011). Based upon the differences that was hypothesized that elementary teachers' would have differing opinions from middle or high school teachers' as to how they valued important teacher and student characteristics. For grade level response, *the ability to differentiate lessons*, elementary teachers regarded *the ability to differentiate lessons* as significantly more important than did high school teachers $F(2,44) = 3.20, p=.050$, thus the null hypothesis was rejected.

Table 4

Mean Values for Teacher Characteristics that Staff Members Deemed to be Important by Grade Level (Elementary, Middle, and High School). (5=Extremely Important; 1=Not important). Starred numbers are the mean values that have significant difference.

Characteristics	Grade Level		
	Elementary (K-6) N=20	Middle (7-8) N=8	High (9-10) N=18
Communicative	4.85	4.89	4.94
Responsive	4.80	4.78	4.83
Manages time well	4.75	4.67	4.78
Flexible	4.75	4.56	4.61
Motivated and enthusiastic	4.70	4.44	4.67
Patient	4.65	4.44	4.61
Respectful	4.60	4.56	4.50
Approachable	4.60	4.56	4.61
Engaging	4.60	4.67	4.61
Student-centered learning	4.55	4.33	4.11
Open to suggestions	4.50	4.33	4.28
Ability to Differentiate lessons	*4.50	*4.22	*3.89
Committed to teaching	4.45	4.56	4.50
Organized	4.35	4.67	4.67
Demonstrates creativity	4.30	4.44	4.17
Ensures students critical and reflective	4.00	4.00	4.00
Takes risks	3.95	3.89	3.50
Ensures student interaction with other students	3.90	3.78	3.33

Student Characteristics

The following information specifically depicts the results of the staff survey where they rated each of the characteristics of students. Overall, the top three characteristics rated as most important, from the staff survey, rated as most important were: *having access to computer and Internet* (89%), *strong support from their family or learning coach* (83%) and *effective time management skills* (60%). Six percent of the respondents felt that the characteristic of a visual learner was not important at all and an additional 21% felt as if this trait was only somewhat important.

Tables 5 through 7 represent the results to the survey comparing the means of the characteristics HAVS teachers deemed important for an online student's academic progress. The starred numbers (*) are the characteristics, by category, that showed significance after the independent sample *t*-tests or one-way ANOVA. Specifically, the research focused on: 1) gender, 2) the role or position (teacher vs. administrator) and 3) grade level. These three demographics were analyzed in relation to teacher's perceptions of desirable student characteristics of on on-line student. The survey utilized a five point Likert Scale rating ranging from 1-5 representing *not important at all* to *extremely important*.

Means for all characteristics derived for each of the three demographics were compared. An independent sample *t*-test was used to compare responses for gender and role and a one-way ANOVA was used to test for differences between all three for grade levels. All statistical tests were conducted with α at 0.05 ($p < .05$).

Statistically Significant Results

Gender: The alternative hypothesis: that teachers would rate different characteristics important based on their gender was not supported in literature findings. For gender response, the trait

entitled *self-directed/self-starter*, male staff members regarded *self-directed/self-starter* as being significantly more important than did females $t(44) = -2.61, p=.015$. This result rejects the null hypothesis, showing that male staff members put a greater value on a student's being *self-directed/self-starter* more so than female staff members. It is recognized that only 10 males responded to the survey creating a low response rate that may not be reflective of all male staff members, therefore a potential for bias.

Table 5
Mean Values for Student Characteristics that Staff Members Deemed to be Important by Gender. (5=Extremely Important; 1=Not important). Starred numbers are the mean values that have significant difference.

Characteristics	Gender	
	Male	Female
	N=10	N=36
Has access to computer and Internet	5.00	4.94
Self-directed/self-starting	*4.80	*4.33
Effective time management skills	4.70	4.42
Highly motivated	4.70	4.22
Strong support from home	4.60	4.83
Strong work ethic	4.60	4.31
Is an active learner	4.50	4.31
Computer literate	4.40	4.42
Can deal with technology and its frustrations	4.30	4.25
Willingness to ask questions	4.20	4.25
Not dependent on face-to-face interaction	4.10	4.08
Appropriate writing/reading skills for virtual	4.10	3.86
Effective problem solver	3.80	3.78
Strong academic self-concept	3.70	3.67
Visual learner	3.00	3.06

Role: Colleen Seremet, et. al. (n.d.) found five performance areas identified as the critical leadership skills a principal must demonstrate to effectively lead a school in improving school

achievement. The first of the five leadership skills is promoting collaborative problem solving and open communication. This supports the alternative hypothesis that administrators would have differing opinions from teachers as to how they valued important teacher and student characteristics. For the trait entitled *effective problem solver*, administrators regarded *effective problem solver* as being significantly more important than did teachers $t(45) = 2.23, p = .031$. This finding also rejected the null hypothesis. It is recognized that only five administrators responded to the survey creating a low response rate that may not be reflective of all male staff members, therefore a potential for bias.

Table 6

Mean Values for Student Characteristics that Staff Members Deemed to be Important by Role (Teacher or Administrator). (5=Extremely Important; 1=Not important). Starred numbers are the mean values that have significant difference.

Characteristics	Role/Position	
	Teacher N=42	Admin N=5
Has access to computer and Internet	4.95	5.00
Strong support from home	4.76	5.00
Effective time management skills	4.48	4.60
Computer literate	4.43	4.40
Self-directed/self-starting	4.40	4.80
Strong work ethic	4.36	4.60
Is an active learner	4.31	4.60
Can deal with technology and its frustrations	4.29	4.20
Highly motivated	4.29	4.60
Willingness to ask questions	4.21	4.40
Not dependent on face-to-face interaction	4.12	4.00
Appropriate writing/reading skills for virtual	3.98	3.60
Effective problem solver	*3.71	*4.60
Strong academic self-concept	3.67	3.80
Visual learner	3.07	3.00

Grade level: According to a report from the Center for Public Education (2011), the report revealed that participation was greater for K-8 students than for those students who were in high

school at a comparison rate of 92% for K-8 parents to 83% for high school parents with regard to attending school or PTO/PTA meetings. The gap was even more pronounced in the area of volunteering at a comparison rate of 52% for K-8 parents to 34% for high school parents. The alternative hypothesis: It was hypothesized that elementary teachers' would have differing opinions from middle or high school teachers' as to how they valued important teacher and student characteristics. For the trait entitled *strong support from family or learning coach*, elementary teachers regarded the *strong support from family or learning coach* as significantly more important than did high school teachers $F(2,44) = 4.80, p=.013$. This finding rejects the null hypothesis.

Table 7

Mean Values for Student Characteristics that Staff Members Deemed to be Important by Grade Level (Elementary, Middle and High Schools). (5=Extremely Important; 1=Not important). Starred numbers are the mean values that have significant difference.

Characteristics	Grade Level		
	Elementary (K-6)	Middle (7-8)	High (9/10)
	N=20	N=8	N=18
Strong support from home	*5.00	*4.89	*4.50
Has access to computer and Internet	4.90	5.00	5.00
Self-directed/self-starting	4.40	4.22	4.61
Computer literate	4.35	4.67	4.39
Is an active learner	4.35	4.00	4.50
Can deal with technology and its frustrations	4.30	4.22	4.28
Effective time management skills	4.25	4.44	4.78
Strong work ethic	4.20	4.33	4.61
Highly motivated	4.15	4.22	4.56
Willingness to ask questions	4.15	4.22	4.33
Not dependent on face-to-face interaction	3.95	4.44	4.11
Appropriate writing/reading skills for virtual	3.70	4.00	4.17
Strong academic self-concept	3.65	3.67	3.72
Effective problem solver	3.65	3.89	3.94
Visual learner	3.00	3.67	2.83

OPEN-ENDED RESPONSES FROM STAFF SURVEY

The survey provided the opportunity for teachers to respond to seven open-ended questions. The following table illustrates staff survey responses to four of the open-ended questions. Notice that 48% of the teachers came to this type of online teaching environment because it was an innovative and new way to approach teaching. Thirty-eight percent of the staff identified a need for further training in best practices in on-line lesson development while 29% of the staff identified a need for further training in technology and systems.

Table 8
Results Open-ended Responses from Staff Survey by Category

Question	Category	Percent Responding N=47
Led to teach online	Innovative & New way to approach teaching	48%
	Job Availability	25%
	Ready for a Change	21%
	Flexibility	14%
Types of training for pre-service teachers	Technology and Systems	70%
	Virtual Practicum/Student teaching experiences	29%
	Effective online communication	21%
	Best Practices in online lesson development	17%
	Effective time management	4%
Professional development desired by staff	Best practices in online lesson development	38%
	Technology/systems training	29%
	Increased communication	19%
	Networking with other virtual/online teachers	17%
	Elluminate™ training	12%
Type of student finding success	Self-motivated/Effective time manager	72%
	Strong home support	25%
	Special needs(both IEP and high ability)	6%

Specifically Designed Interview Questions for Teachers of 10th Grade Students

The table above displays specifically designed interview questions for teachers of 10th Grade Students. The purpose of the design of the questions allowed the teachers an additional voice to support their opinions.

One teacher specifically stated with regard to the need for more technology training:

“ . . . We got brief training at the beginning of the year. Training a few months later would be great.” This demonstrates the need for continued technology training for all teachers throughout the school year. As previously stated, 66% of staff received no formal training for the virtual environment, thus further validating further professional development in technology is necessary. This will be discussed further in chapter five. Another future need for professional development was in the area of best practices of online learning. One teacher notes as follows:

“I think there are many ‘cute’ things for younger students, but it's hard to be engaging when you are dividing polynomials: I would like more ideas on how to take a ‘format’ or a ‘template’ of a lesson and apply it to a variety of topics . . . so that I can use them in a variety of lessons...such as engaging games or activities. I would also like to know what makes other K12 teachers successful. We have a nation of teachers available to us, but I do not ever see them in action. Do not give me a fish; teach me to fish.”

This quote not only illustrates the high need for professional development in best practices, but also with technology training, but also the need for collaboration with other online teachers from across the nation.

Pros and Cons of Teaching Online vs. Face-to-Face

The following table illustrates the majority of staff members' responses to the staff survey as they shared more pros than cons to teaching online over that of face-to-face teaching. Respondents felt as if the biggest benefit to teaching online was the ability to focus more on teaching rather than classroom discipline with 36% of the respondents indicating this as the number one benefit to online learning. However, 14% of the respondents said that they miss seeing their students daily, face-to-face, in the traditional classroom.

Table 9
Pros and Cons to On-line Teaching vs. Face-to-Face

PROS	% RESPONDING	CONS	% RESPONDING
Ability to focus on teaching and not discipline	36%	Missing the face-to-face interaction with students	14%
Added communication with families	31%		
Job flexibility	29%		
One to one teaching opportunities	8%		

STAFF INTERVIEWS

Below is a summary, in no particular order, each of the interview questions with the staff members who were chosen to participate in the set of interviews. Each question is labeled as Interview Question followed by a figure displaying results from each set of grade levels.

Interview question 1: What are the important traits that you believe a student, enrolled in the program of virtual schooling at your particular level, must possess to make academic progress or growth?

Grades K-2	Grades 3-6	Grades 7-8	Grades 9-10
<ul style="list-style-type: none"> • Access to computer and Internet • Dedicated learning coach • Ability to adapt socially in an independent environment • Perseverance • Initiative 	<ul style="list-style-type: none"> • Motivation • Strong and dedicated learning coach • Independent worker • Access to appropriate technology (computer, internet, supplies) 	<ul style="list-style-type: none"> • A desire to be educated and a value of education • Self-motivated • Ability to work independently • Supportive and engaged learning coach • Appropriate technology and Internet skills 	<ul style="list-style-type: none"> • An intrinsic motivation • Self-disciplined • Self-motivated • Computer literate • Dedicated • Supportive learning coach • Self-reliance • Self-reflective

Figure 3. Grade Level Focus Group Interview Responses.

The emergent themes from this question were:

- a) *Appropriate technology and Internet access* surfaced from all grade levels as **important** for a student's academic progress or growth. It was expressed that academic growth can be maximized by students who have access to the appropriate technology and Internet. Having access to a computer and Internet is not specifically a trait, but is more indicative

of a parent providing the appropriate tools to ensure their child's success in a virtual environment.

- b) *Self-Motivated* was another emergent theme. In grade levels three and up, key traits of successful students were those of being *self-motivated* and being an *independent worker*.

Interview question 2: Based on your virtual experience thus far, what essential traits must any teacher possess who is looking to make a move into virtual schooling?

Grades K-2	Grades 3-6	Grades 7-8	Grades 9-10
<ul style="list-style-type: none"> • Best practice skills • A focus on parents/learning coaches and being respectful • Responsive • Encouraging • Basic knowledge of technology • Taking an online course prior to teaching online • Perseverance • Initiative • Resourcefulness 	<ul style="list-style-type: none"> • Organization • Able to work with adults/learning coaches and coach them • Communication—in all forms—telephone, email, face-to-face • Encourager • Enthusiasm • Best practices in teaching but also online teaching 	<ul style="list-style-type: none"> • Knowledge of best practices • Adult communication • Organized • Manager of time • Motivated • Clear and concise communicator 	<ul style="list-style-type: none"> • Computer literate • Self-directed • Self-motivated • Able to be your own boss • Creative lesson development in Elluminate™ • Engaging • Empathetic • Able to build rapport with both students and adults • Flexible • Communication • Troubleshooter with both technology and the system itself

Figure 4. Grade Level Focus Group Interviews.

The emergent themes from this question were: *best practices*, *good communicator (especially with adults)*, *basic understanding of technology*, and *one who is organized/good manager of time* surfaced across all grade levels. Because HAVS is in its first year of existence, as a non-pilot program, all newly-hired teachers have not had the exposure and training to each of

these essential traits. Therefore, it is necessary for best practices and technology training to be provided for all incoming and current virtual educators.

Interview question 3: What can you tell me about those students exhibiting academic growth?

Do any specific traits stand out to you as significant or worth noting?

Grades K-2	Grades 3-6	Grades 7-8	Grades 9-10
<ul style="list-style-type: none"> • Access to computer/Internet • Dedicated learning coach/parent • Ability to adapt to a socially independent learning environment • Organized learning coaches • Excited about learning • Engaged and attending Elluminate™ 	<ul style="list-style-type: none"> • Highly engaged families/learning coaches • Attending Elluminate™ on a regular basis • An internal want to do well • Love of learning and excited to be in Elluminate™ 	<ul style="list-style-type: none"> • Completely involved learning coach • Motivated • An understanding of the expectations of the online schooling • Self-directed • Involved in the online classroom through the Elluminate™ 	<ul style="list-style-type: none"> • Supportive and involved learning coaches • Access to computer/Internet • Self-motivated • A seeker of knowledge • Desire to go above and beyond • Regular attendance in Elluminate™ • Active learners

Figure 5. Grade Level Focus Group Interviews.

The two most noted traits from this question were: 1) students having *access to appropriate technology and Internet* and 2) those that have a very *involved parent/learning coach* to guide and support them as a student. These traits or pre-requisites have been identified in several responses as being the main reasons students are succeeding academically. A teacher is

quoted below and serves as the best example of those students who are finding success or not finding success in this environment.

“The successful student in online education is a self-starter who asks questions the moment he/she needs help. Some students do not succeed, and then months later say they didn't understand. This couldn't be more different from the successful student who asks questions to learn about what they do not understand. They are proactive. They also tend to write out a schedule for their day or even week, so they know exactly what needs to get done. They are organized. They also do not procrastinate. Students who put things off often have a backlog of assignments to get done last minute, which usually means the quality of these assignments will not be good. So in short, the successful student is a self-starter, in frequent communication with teachers, and eager to complete assignments.”

This quote further supports the statistically significant findings of students being *self-directed/self-starting* students. This, also, further correlates with the important characteristic for *effective time management* skills for students.

In addition to the three interview questions above, two supplementary questions were extended to teachers of 10th grade students who were performing in the top 10% of their class. The questions focused on those common traits exhibited by these students.

Figures 6 and 7 below show the responses of 10th grade teachers. The following characteristics were regarded as emergent themes as important contributions to academic success of 10th grade students: *a high set of organization skills, being self-motivated, having a very involved parent/learning coach and an advocate for themselves and their learning.*

Interview question 4: Based on your experiences as a high school teacher working with 10th grade students, what is it that makes these students so successful in this learning environment?

10th Grade Teachers/Advisor

- High set of organizational skills
 - Involved learning coach/parent
 - Developed set of reading skills
 - Engaged and actively attending Elluminate™ OR in active communication with their teachers through telephone or K-mailing
 - Effective written and oral communication skills with peers, teachers, advisors, counselors, principal, and learning coach/parent
 - An advocate for themselves and their learning
 - Desire to be in this environment and a drive to go above and beyond academically—not just giving the minimal answers but able to display their developed knowledge on the material
-

Figure 6. Grade 10 Interview Group

Interview question 5: What have you specifically done to encourage or further develop these traits that you see as significant in this group of students?

10th Grade Teacher/Advisor

Reaching out to them individually and encouraging them through positive feedback and communication

Saying things to hopefully increase their intrinsic motivation

Trying to talk bigger picture with the students—of goals beyond high school

Asking them to become an even more critical thinker through the feedback given in participation in the online classroom, feedback on assignments/tests to not just a grade but written feedback to push their thinking beyond the answers given

Trying to push content and make connections with between curriculum and careers

Providing opportunities within the online classroom to lead discussions

Figure 7: Grade 10 Interview Group

Summary

Chapter Four was a presentation and interpretation of both qualitative and quantitative data derived from staff interviews and surveys. The following are the key themes that emerged from the data:

- a) Parents in Indiana are actively seeking a new educational alternative found in virtual education.
- b) The top three rated teacher characteristics, from the staff survey, as perceived by teachers, consisted of: *communicative*, *responsive*, and *time management skills*.
- c) The statistical findings from teacher characteristics of gender were male staff members regarded *commitment to teaching* as being significantly more important than female staff members. With regard to role, administrators viewed the trait *manages time well* more

considerably more important than did teachers. The last area of grade level, elementary teachers regarded the ability to *differentiate lessons* as pointedly more important than high school teachers.

- d) The top three student characteristics, according to teacher's perceptions, include: *having access to computer and Internet, a strong support from their family or learning coach, and effective time management skills.*
- e) The statistical findings of student characteristics in the category of gender were that male staff members regarded *self-directed/self-starter* as being significantly more important than did females. In the area of role, administrators regarded *effective problem solver* as being significantly more important than did teachers. In the last area of grade level, elementary teachers regarded the *strong support from family or learning coach* as significantly more important than did high school teachers.
- f) Open-ended responses from the staff survey demonstrated the need for professional development for new and existing teachers in the areas of best practices in on-line learning and technology/systems training.
- g) The teacher characteristics of: *best practices in on-line learning, effective communication and time management skills*, as well as an *understanding of technology* were evident from the focus group survey questions. These traits surfaced across all grade levels.
- h) The student characteristics of: *appropriate technology and Internet access* and *involved parent or learning coach* were the top two traits evidenced from the focus group survey questions. These traits, likewise, surfaced across all grade levels.

These characteristics certainly are not all-encompassing; yet, these characteristics, when further tested, could potentially serve as predictors for academic progress in a virtual learning environment.

Chapter Five begins the last chapter of this dissertation and research study, wherein conclusions will be made along with recommendations for future study.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

The culmination of the research findings along with the conclusions and recommendations tied to those results are expressed in this last chapter. A revisit to the purpose of the study, sampling, and summary of the findings was made followed by the conclusions and implications. The conclusions and implications were subdivided into three main categories: practices of the school; policies of the school and universities; and future research recommendations. Finally, an overall summary of the research encapsulates the entire study.

Purpose, Sampling, and Summary of Findings

The intent of the study was to determine the functionality of a virtual school while investigating attributes of its teachers and learners. More specifically, the researcher wanted to:

- 1) Determine, from the teacher's perspective, the important characteristics of the online teacher
- and 2) Determine, from the teacher's perspective, the important characteristics of the online learner.

This was done by conducting a survey of virtual staff members who rated characteristics that they deemed essential for any online teacher and student to possess. Interviews with select teachers at the elementary, middle and high school levels were conducted to further examine the academic advancements of the student. Gaining the teacher's perspective was essential in understanding necessary traits for successful academic progress. Interviews were constructed as follows:

1. Four focus groups—two elementary (K-2) and (3-6), middle (7-8) and high school (9-10) staff members which discussed characteristics that stood out as being important.
2. High school teachers, working with the top 10% of 10th grade students, were interviewed to give their perspective of characteristics linked to students' academic success. The analysis revealed that the characteristics exhibited by the students led to their high academic performance.

A survey was sent to parents to determine why they chose this type of learning environment for their child.

Summary of Findings

Parents in Indiana are actively seeking a new educational option that virtual education could provide. From the staff survey, three top-rated characteristics, as perceived by the teachers, surfaced, which included: *communicative, responsive, and time management skills*.

The statistical findings from teacher characteristics of gender were male staff members regarded *commitment to teaching* as being significantly more important than female staff members. With regard to role, administrators viewed the trait *manages time well* more considerably more important than did teachers. The last area of grade level, elementary teachers regarded the ability to *differentiate lessons* as pointedly more important than high school teachers.

Further results from the staff survey, as perceived by teachers, were three top-rated student characteristics, which included: *having access to computer and Internet, a strong support from their family or learning coach, and effective time management skills*.

The statistical findings of student characteristics in the category of gender were that male staff members regarded *self-directed/self-starter* as being significantly more important than did

females. In the area of role, administrators regarded *effective problem solver* as being significantly more important than did teachers. In the last area of grade level, elementary teachers regarded the *strong support from family or learning coach* as significantly more important than did high school teachers.

The staff survey provided opportunities to respond to open-ended questions. The results of the survey demonstrated the need for professional development for new and existing teachers in the areas of best practices in on-line learning and technology/systems training.

The teacher characteristics of: *best practices in on-line learning, effective communication and time management skills*, as well as an *understanding of technology* were evident from the focus group survey questions. These traits surfaced across all grade levels.

The student characteristics of: *appropriate technology and Internet access* and *involved parent or learning coach* were the top two traits evidenced from the focus group survey questions. These traits, likewise, surfaced across all grade levels.

Certainly, these characteristics are not all encompassing; however, when further tested, they could serve as a predictor for potential success in this type of learning environment.

Conclusions and Implications

The conclusions and implications of the results for three different areas: the impact on practices of the school, policies of the school or universities, and additionally future research recommendations will be provided.

Hoosier Academy Virtual School is in its first full year of existence and no longer a pilot program. It has gone through immense changes and endured many challenges this school year,

among which were: no official policies and practices that pertained directly to the hiring of virtual teachers or a designated screening process of prospective students. Additionally, there was no professional development plan in place for teachers new to the on-line environment, to address their needs for technology training or best practices in on-line learning.

Practices of the School

The staff survey revealed that professional development remains weak within HAVS. Only 34% of staff indicated they had received any kind of formal training in the virtual environment. Stemming from the data were three principal areas where professional development should be designed and implemented: *best practices of online learning, technology training, and enhanced communications.*

Professional Development

Best practices—As gleaned from the staff survey, 38% of staff members requested further training in best practices of lesson development in online learning. As a basis for developing a set of best practices specifically designed for Hoosier Academy Virtual School teachers and students, a 2008 report of best practices in teaching K-12 online from the Michigan Virtual School (DiPietro, Ferdig, & Black, 2008) could be utilized. With the HAVS virtual school being in its first year of existence, it is important to focus on the development of teacher strengths, creating and sharing, in house, a best practices program where teachers are teaching teachers. There needs to be a clear design based on best practices in K-12 online teaching. To do this, a professional development committee could be formed that uses the report from Michigan Virtual School as a starter conversation regarding practices in online teaching. Additional established virtual K-12 programs that have a record of success in academic growth would be sought out to

form another portion of the committee. Seventeen percent of staff indicated importance of the creation of a network of schools would allow teachers the ability to share and collaborate with other online teachers. The need for time flexibility is very real. This includes a scheduled time for professional development; having a common planning time to connect to fellow teachers relating successful best practice techniques; and teachers' self-directed learning time. Within the study, training in the area of best practices of online learning would be encouraged.

Based on the statistical findings, there was a significant difference between the way in which elementary and high school teachers regarded the *ability to differentiate lessons*. Emphasis should be placed on professional development for teachers, in all grade levels, in the area of differentiation. Teachers, across all grade levels, should deem this as important and be given specific training in how to differentiate lessons based on the varying abilities of the students in their classrooms.

Technology training—Twenty-nine percent of staff responses from the survey, revealed that they need further training specifically in the area of technology, systems and within the online Elluminate™ classroom. Twelve percent of staff specifically desired training with Elluminate™. Student's perceptions of their learning environment may be related to the amount of professional development their teachers receive in technology (Effectiveness of K-12 Online Learning) and justifies the need for a well developed set of technology training for teachers. The National Education Technology Plan supports replacing the “episodic and ineffective professional development” with professional learning that is “collaborative, coherent, and continuous” (Kennedy, 2010). Teachers at the beginning of this 2011-2012 school year went through a sort of “boot camp” training. However, little time for personal technology training occurred unless teachers sought it out with one another through informal conversations or directly from the in-house technology director. This is likely an important piece for continued teacher success and

growth. After the “boot camp” of training, further specific, topic-oriented training needs to occur—whether it’s through the technology director, training provided by Corporate K12, networking with other teachers across the nation, or through teacher-to-teacher training of how to best use the ‘tricks’ learned through the Elluminate® (online classroom). A combination of these are necessary to have a comprehensive professional development program in technology. It would be highly advantageous for educators to work directly with a set of “tech saavy” teachers by forming a committee to develop an ongoing training throughout an entire school year following the initial “boot camp” training. This again supports part of the National Education Technology Plan to have a continuous, collaborative, and coherent professional development plan for technology (Education, 2010).

Enhanced communication--Eighty-nine percent of the staff respondents, from the survey, rated the trait of *communication* as the most important. This is the principal characteristic that needs further development—consistency in communication, especially between the teacher and students. In the virtual environment, communication occurs in various forms of technology-mediated formats (Harms, Niederhauser, Davis, & Doblyer, 2006), thus further training in technology will only help with the communication piece. Since teachers in the online learning environment aren’t standing in front of a classroom and monitoring students, it’s essential for teachers to be proactive about engaging students in communication (Ash, 2009). Educators have much to learn from teachers who have a high rate of successful interactive communication with students/parents/learning coaches. Results from the focus group interviews revealed that *communication* was one trait that was prevalent in all grade levels as being key to academic growth/progress of the students. The proposed committee would then begin to develop a model and protocol for all teachers involving student engagement through communication. Too often, teachers might assume a message they send via internal e-mail is clear and concise or they might

assume parents already know something, and in-fact, they do not. Therefore, clear, concise, communication that is jargon-free is key for effective communication in this environment. There is almost a need for “teacher-overcommunication” rather than assuming a message has been conveyed. Communication is at the heart of virtual learning and it is what creates the true partnership between teachers and parents/students (Frey, 2005).

Applicant Qualifications for On-Line Teachers for HAVS

The practices of the Hoosier Academy Virtual School, with regard to screening further applicants for on-line teachers, are still very new and part of an evolving process. Through informal conversations with teachers and administrators, it is recommended that a protocol be established to tie into potential policies that are specific when screening applicants for the online environment.

Hoosier Academies Schools, as a school district (which includes the Hoosier Academy Virtual School), employs an outside human resources management firm as part of its screening process. Teachers are presented with a list of open-ended questions as a part of the application process. A survey would further be given as part of an internal screening process having candidates rate the important teacher and student characteristics. If the outcomes of the survey were: *communicative, responsive, and manages time well* as top teacher characteristics, *and student access to computer and Internet, strong support from family/learning coach, and effective time management skills* as important student characteristics—these results could further determine if they would be a good candidate for the virtual learning environment.

The development and demonstration of an online lesson that would exhibit prospective teachers’ technology skills could be used as an additional part of the actual screening process. The role of the teacher is ever-evolving and the teacher (and/or textbook) can no longer be the

ONLY conduit of information for students. There is simply too much good information available via the Internet and new ways of managing and accessing information (Wicks, 2010). It is important to determine whether the prospective candidate can use those 21st Century learning skills (21st Century Schools , 2008) such as helping students build their skills in literacy. A building of literacy proficiency provide students the ability to ask questions, research and sort through multiple sources, process and synthesize data and information, as well as draw conclusions and develop action plans. Lesson planning could be based on that knowledge, using the curriculum and state standards as a base-line for the lesson itself (Wicks, 2010). A particular topic could be presented within a specific area, giving the candidate a set amount of time (with the technology and materials provided) to develop a lesson and then demonstrate that lesson to the interview committee.

Screener for Students

Based on the analysis of the data from the survey responses it is evident that the students who are making academic progress possess a set of key characteristics which include: *having access to computer and Internet, strong support from family/learning coach and effective time management skills*. The characteristics showing greatest importance for the need of development of a screener was having a *supportive and active parent or learning coach*. Eighty-three percent of staff respondents from the survey mentioned this support system as an important trait for students, along with *self-motivation*. Additionally, those responding pointed out, not necessarily a characteristic, but rather a pre-requisite for a student to have *access to technology and the Internet*. Ninety-eight percent of staff saw this as an important piece (even if not a trait for students) that should be a part of the pre-screening process. It is recommended to develop a

screening survey that parents could complete online. The survey would include a scale reflecting whether or not their student would potentially find success in this on-line learning environment. For example, it might include such items similar to the form found in Appendix A, but perhaps making some additions or even re-working the form using the rubric found in Appendix A. The screening interview form would be fairly comprehensive as shown below:

- a. Is the parent or learning coach able to devote a minimum of 25 hours per week to work with their child and ensure attendance hours are met and logged?
- b. A rating of the important characteristics similar to those on the staff survey
- c. Technology question with regard to:
 1. Availability of a working computer with compatibility and minimum technology requirements
 2. Experience with working Internet access in the home or specified learning environment.

When the parents complete the screening survey, the results would give them a number that would then correspond with a rating scale of: Success in This Environment; Potential Success in This Environment; Might Need Direct Assistance and Further Training to be Successful; Will Probably Not Find Success in this Environment, and Will Not Be Successful At All. The screening survey formed would be accessible to any parent on the school website to complete before considering enrollment with the virtual school. A screening survey form, such as this, could potentially help the type of students that are enrolling and not finding success. Those enrolled who fail to meet the minimum requirements of the school would lose out on valuable academic learning time, whereas if there was a screening survey in place prior to enrolling, a scenario such as this could be avoided. Thirty-five percent of those parents responding indicated that their student was not finding success in their previous

learning environment before coming to Hoosier Academy Virtual School (HAVS). Having this initial screening process in place could further avoid discontent with this environment.

Policies for the School or University

Pre-screener for Enrollment (School policy)

Currently, specific guiding principles are not in place at HAVS. The practices of the school are lacking with regard to the screening survey process for student enrollment, requiring parents to have completed the screening survey form before official acceptance into the program. It is proposed that a follow-up session be held between the enrollment personnel and parents, following the screening evaluation form. This session would provide a time for the enrollment team to discuss all of the requirements of the learning environment, making parents aware of the conditions and avoid potential removal from the program.

Pre-Service Teacher Preparation (University Policy)

Teacher preparation programs, specifically as they relate to virtual learning, need to have a developed policy and practice in place for all future teachers. This was evident through staff survey responses, where 29% of respondents believed an actual virtual/online classroom practicum or student teaching experience was essential before considering a professional move to teach in this environment. It is critical for universities to continue to explore the changes within the teacher education program to address the needs of pre-service teachers to have the option of exploring the world of virtual teaching and preparing students specifically for this environment. This would include working closely with the state department of education to develop a comprehensive set of standards for K-12 online teachers, similar to that of the state of Idaho (Dawley, 2010). It is the responsibility of any teacher preparation program to use the standards in

a manner that are consistent with its conceptual framework and assures the attainment of the standards. The state of Idaho recognizes that online instruction can be vastly different from teaching in a traditional face-to-face environment. Therefore, online schools and programs serving K-12 students should be structured to support the unique needs of teachers and students. The online teacher standards of Idaho are directly aligned to the Idaho Core Teachers Standards. This could be used as the basis for working with upper administration at HAVS and to continue conversations specifically with the Ball State University Teacher Education program to explore how to change and better prepare pre-service teachers for teaching in the virtual environment and generally, online work.

Future Research Recommendations

Based on the findings of this study, there are four future areas of research that are recommended. They are as follows:

1. A study on the performance of the students' location regionally in the state where there are large pockets of students and teachers in one geographic area. Is there any correlation between the location of the teacher and the student with regard to academic performance or making those personal connections with a teacher? (See Appendix C for maps of student and teacher locations across the state of Indiana)
2. A longitudinal, comparative study of the important characteristics of teachers and students should be conducted where those characteristics are correlated against standardized assessment data over the course of three to five years. Is there any connection between the characteristics of the teachers and students and a student's academic performance?

3. A larger scale study to do a comparison between Hoosier Academy Virtual School and other virtual school(s) of similar size, and teacher/student make-up between programming, instruction, and standardized testing data.
4. A study of teachers in the virtual setting forming a partnership with a university teacher education program to screen for potential teacher candidates, based on the important characteristics revealed in this study. The purpose of the partnership would be to develop a pilot virtual teacher education program through appropriate course development with virtual practicum experiences throughout the program culminating in a student teaching experience in the virtual learning environment.

Summary

This study's objective was to determine, from the teacher's perspective, the important characteristics of both online teachers and students. The results revealed that online teachers should possess traits of being *communicative*, *responsive*, and being *good time managers*. With regard to students, they must *have access to a computer and the Internet*; *strong support from their family or learning coach*; and *effective time management skills*. This serves as a basis to find quality teachers who are "the right fit" for the on-line learning environment as well as helping parents make a more informed decision with regard to enrolling their child in a virtual school. For the first time in public school history in the State of Indiana, there is now a new choice for students to be able to attend a public school that is delivered fully online with certified, licensed, and highly qualified teachers (Indiana Department of Education, 2011). All teachers hired to date by the Hoosier Academy Virtual School meet the guidelines, under the highly qualified status for the Department of Education. The results of this study may serve as a tool for: HAVS, and potentially all virtual schools.

- To provide the most appropriate professional development opportunities for its teachers.
- Serve as a tool for universities to better prepare pre-service teachers by offering classes that are specific to virtual schooling.
- Identifying those pre-service teachers who might have those characteristics to work in a virtual learning environment.
- The development of a pre-screening interview process for parents to ascertain the type of student(s) that would best fit with this type of K-12 online learning environment.

In order for HAVS to reach its full potential, it will be essential that a well-developed professional development plan be explored and then implemented. Additionally, the development of a screener for parents will determine if virtual schooling is right for their child and finally, discussion with universities must continue as to how they are preparing pre-service teachers for the world of virtual education. By calling into action each of these findings and recommendations, Hoosier Academy Virtual School could be well on its way to being an outstanding school that can provide a **choice** for students in Indiana.

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Appendix A – Rubric for Online Learning

RUBRIC FOR ONLINE LEARNING

Student Readiness	Technological Skills	Work & Study Habits	Learning Style	Technology/Connectivity	Management Time	Motivation/Interest	Reading/Writing Skills	Support Services
More Ready	Student has little, if any, experience using a computer or the Internet, and has minimal desire to develop more skills in this area	Student often needs reminders to complete routine assignments, often turns homework in late and is not able to spend 5-10 hours per week on each online course	Student is not a self-directed learner and often requires real-time feedback from teachers regarding basic directions and follow-up support	Students do not have consistent access to a computer and a reliable connection to the Internet from home or from school	Student does not manage his or her time effectively in doing research, basic studies and preparing for tests or quizzes	Student has little or no interest in the content area of the online course offering and has a negative or unrealistic attitude toward online learning	Student is reading below grade level and has experienced difficulty with routine writing assignments	In general, parents and school personnel do not actively support online learning and are unable or unwilling to provide support assistance
↓	Student has limited experience using a computer and the Internet, and has expressed a strong interest in developing more skills in this area	Student sometimes needs reminders and assistance in completing routine assignments and has pledged to spend 5-10 hours per week on each online course enrollment	Student is beginning to demonstrate the behaviors of a self-directed learner and sometimes requires real-time feedback from teachers regarding basic directions and follow-up support	Student has limited access to a computer with low-speed service to the Internet from school or from home	Student is beginning to demonstrate effective time management skills in doing research, basic studies and preparing for tests or quizzes	Student has an interest in the content area of the online course offering, but has expressed concerns about enrolling in an online course or has an unrealistic attitude toward online learning	Student is reading at grade level and has demonstrated limited proficiency with writing assignments	Students' support system is limited; parents and school personnel are somewhat supportive of enrollments in online courses
↑	Student has strong computer skills and detailed experience using a word processor, email application and Web browser	Student rarely needs reminders or assistance in completing routine assignments and has demonstrated good independent study habits	In general, the student is a self-directed learner and does not require real-time feedback from teachers regarding basic directions and follow-up support	Student has consistent access to a computer with moderate-speed service to the Internet from home, and from school	Student has demonstrated effective time management skills in doing research, basic studies and preparing for tests or quizzes	Student has an interest in the content area of the online course offering, and has a positive and realistic attitude toward online learning	Student is reading at or above grade level and has demonstrated success with a variety of writing assignments	Student has open access to school-based mentoring/counseling services and parental support
Critical	Student has excellent computer skills and significant experience using a word processor, email application and Web browser, and is comfortable downloading information from the Internet and using other technology/tools and applications	Student does not need reminders or assistance in completing routine assignments, usually finishes homework ahead of time and has successfully completed an independent study experience or taken an online course	Student is a self-directed learner and demonstrates a high level of comfort and skill in learning new material without requiring real-time feedback from teachers regarding basic directions and follow-up support, and deals well with ambiguity	Student has daily access to a computer with high-speed service to the Internet at home and at a convenient location in the school building before, during and after regular school hours	Student has demonstrated outstanding time management skills while participating in a variety of clubs, student organizations, sports, and work activities	Student has a strong interest in the content area of the online course offering, is highly motivated to enroll in an online course and has a positive and realistic attitude toward online learning	Student is reading above grade level, has strong reading comprehension skills and has demonstrated success with complex writing assignments	Student has regularly scheduled access to mentoring/counseling services, parental support is strong and district has adopted policies and identified best practices to support students as online learners
Critical	Student has unique skills, interests, talents, study habits or extenuating circumstances that warrant the expanded use of online learning							

Appendix B High School Internet Education Survey (Roblyer, 2003)

High School Internet Education Survey

(© 2003, M. D. Roblyer)

This survey is designed for high school students who are interested in Internet-based distance education. Please answer the following questions as accurately as you can.

DIRECTIONS: *Circle* the number to indicate *how much* you agree or disagree with each statement below. Strongly Agree is a “1” and Strongly Disagree is a “7.”

Name of School: _____

Name of Instructor: _____

Last 4 digits of your social security number: _____

☐ I am a competent person in my schoolwork.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I believe that I am a valuable person.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I try to achieve in all my classes, regardless of their level of difficulty.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I am well prepared for my schoolwork and believe that unfair tests rarely happen.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I have the ability to learn new tasks.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I really enjoy going to school because I like to learn.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ It is important that my teachers give me knowledge of results or feedback that I can use to further enhance my performance.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I have a need to achieve and feel competent.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ Feedback is very important in helping me to attain my goals.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ Having control over my learning environment is important to me (i.e., choosing when to perform an activity).

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I like to take risks if they are reasonable.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I feel that I am a worthy individual.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ If I do not perform well on a test, it is probably because I did not have enough time.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I enjoy going to school and learning about new ideas.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I receive material rewards from my family if I attain high grades (for example, money).

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I believe myself to be a very organized individual.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I believe myself to be a high achiever.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I frequently find myself to be very stressed, as I tend to cram too many things together at the last possible moment.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I believe that luck plays a large role in anyone's success.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I do not care what other people think of me if I make mistakes.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I have younger brothers and sisters at home that are frequently under my care.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ The goals I set are often too easy.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I find it easier to study for my exams at the last possible moment.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ As classes become harder, I feel that I have the ability to overcome many of the difficult obstacles that may present themselves.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I use e-mail at least once a week.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ Studying for tests is often a waste of time because test questions may not be related to course work.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ The only reason I study hard in school is to achieve high grades.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I find that I try harder if I set high goals for myself.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I feel good about myself.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I tend to schedule my daily activities to allow enough time to accomplish them.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ When something goes wrong, I usually feel that it is my own fault.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I have my own e-mail account.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ When several demands are placed upon me, I will determine which tasks are most important and complete those first.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I rarely set goals for myself.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I tend to persist at tasks until they are accomplished.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I have good word processing skills.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ When I have a difficult exam coming up, I tend to start studying a week or two ahead of time.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ If I am unsure what to do in a situation, I will frequently wait for someone to give me advice.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I know how to use a browser to locate Internet sites.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I have the ability to achieve in all of my courses.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ If I am unsure of what to do in a situation, I tend to wait for instructions rather than go ahead.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ Planning too far ahead is not smart because many things are a matter of timing or luck.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ When I plan activities, I can almost always make them work.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ If I make a mistake, I will often blame others.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ If I miss questions on a test, it is usually the teacher's fault.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I have a computer in my home.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I study hard for all of my classes because I enjoy acquiring new knowledge.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ Personal contact with my classmates is important to me.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I am afraid of failure.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ Face-to-face interaction with my teachers is important to me.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I believe myself to be a task-oriented person.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I am more comfortable working on class projects in small groups than I am alone.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I like taking chances and performing risky tasks.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ When working with others on projects, I frequently find myself doing everything to ensure it is done properly.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ It is difficult to say "no" to the requests of other persons.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I take responsibility for my actions most of the time.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ If I am given a task to perform that I know little about, I do not mind taking a chance.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ If I do not perform well on a test, it is probably because I did not get good instruction from the teacher.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I find it easier to study for an important test by breaking it into sub-parts rather than studying the whole subject matter at one time.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ If I do not perform a task well, it is probably because it is too difficult.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I will often set short-term goals to help me reach a long-term goal.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ Many times, the goals I set are too difficult to reach.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I strive to achieve higher grades only for recognition (e.g., to be in National Honor Society).

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ Many times, I lose interest in attaining the goals I set.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I feel motivated to perform well in my classes because of the approval I receive from other individuals.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I feel comfortable using a computer.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I have easy access to a computer with Internet capability.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ I feel that I am a very self-directed individual (a self-starter).

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ Having control over the pace of learning an activity is important to me (i.e., the time I take to complete an activity).

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

☐ When I perform well on tasks, it is usually due to my own efforts.

Strongly Agree 1 2 3 4 5 6 7 Strongly Disagree

Information About You — Please circle the appropriate answer for each of the following and fill in information, where necessary:

☐ What is your age?

a. 13 d. 15 f. 17 h. 19

b. 14 e. 16 g. 18 i. Other: _____

☐ What is your race?

a. Caucasian d. Hispanic

b. African-American e. Asian

c. Black Hispanic f. Other: _____

☐ What is your gender? a. male b. female

☐ What is your favorite topic in school?

a. Art

e. Humanities

i. Science

b. Computer science

f. Mathematics

j. Social studies

c. English/language arts

g. Music

k. Technology education

d. Foreign languages

h. Physical education

l. Other: _____

☐ What is your grade level?

a. 9th c. 11th

b. 10th d. 12th

☐ Circle the number of clubs and organizations in which are a member or officer. (If none, leave blank.)

a. 1 d. 4

b. 2 e. 5

c. 3 f. More than 5

☐ Do you have a part-time job? (If none, leave blank.)

a. No b. Yes: How many hours a week do you work? _____

☐ How many hours a week do you spend in activities other than a job outside school? (If none, leave blank.)

- a. 1-5
 b. 6-10 d. 16-20
 c. 11-15 e. More than 20

☐ Do you have commitments (e.g., family) outside of school, work, and clubs/organizations?

a. No b. Yes. Explain _____

☐ Is the course you are about to take (or are taking now) your FIRST Internet course?

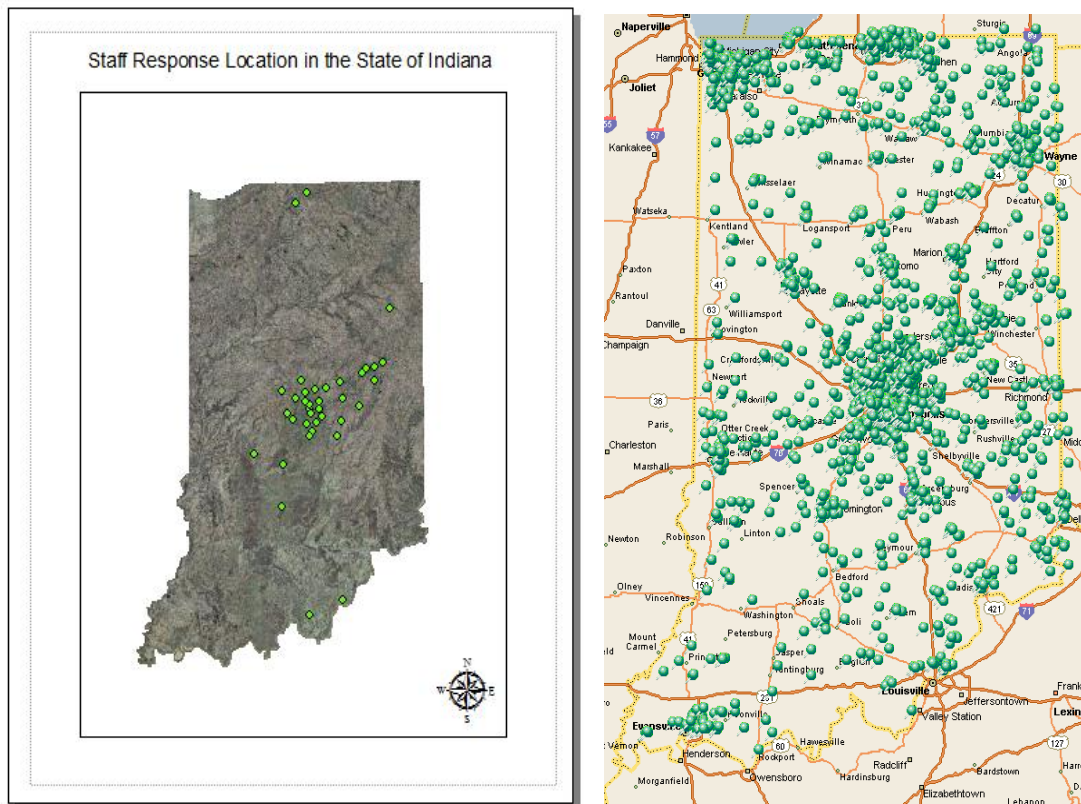
a. No _____ b. Yes _____

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Appendix C – Map of Indiana Displaying teacher locations geographically and showing students in all 92 counties in Indiana



Notice the majority of the staff is in the same geographic region in central Indiana where the students are located. There are other large pockets of students in the Northwest Region of the State where no staff are represented. There is also a small pocket in the Southwest corner of the state where student are located but no teachers.

Appendix D Juried Panel of Experts

Dr. Edward Lazaros—Dr. Edward Lazaros is currently an assistant professor at Ball State University in Muncie, Indiana. He is the coordinator for the Career and Technical Education Master's Degree program. Prior to working at Ball State University, he taught for five years in the Indiana public schools as a technology educator. He has been involved with online education for the past 5 years at both the undergraduate and graduate level.

Mrs. Cindy Wright, Ed. S.—Cindy Wright currently teaches 7th grade social studies in Gainesville, Georgia. This is her 20th year of teaching. Cindy has taught 2nd, 3rd, 6th, 7th, and 8th grade students in a regular classroom. She has also taught ESOL students for 5 years, working with kindergarten, 1st, and 2nd graders most of that time doing both pull-out and inclusion/co-teaching during those years.

Cindy has also taught middle school social studies online for Georgia Virtual Academy for one year. It was the first public virtual school offered in Georgia, serving K-8th grades. It's now called Georgia Cyber Academy. Cindy was employed and trained by K12. Cindy's Bachelor's and Master's came from Ball State University. She also has an ESOL endorsement she earned in Georgia.

Mr. Andy Anderson—Currently serving as a middle school principal in Illinois, Mr. Anderson has a Bachelor of Science, Master's of Music Education, and a Master's Degree in School Administration and Supervision, Andy Anderson has been in education for 15 years in capacities of middle school teacher, assistant principal, and principal as well as a high school teacher and high school assistant principal.

Mrs. Janice Brown—Janice Brown received her undergraduate degree from Indiana University in elementary education and her graduate degree in special education with a concentration in the

areas of learning and emotional disabilities from Ball State University. Janice taught one year of general education at Wes-Del schools, eight years in special education at Blackford County Schools and 14 years of special education at Yorktown Community Schools. Currently, she serves as a behavior resource for Yorktown schools as well as a resource teacher at Yorktown Middle School. She serves on the RTI lead team for the middle school, the autism team for the corporation, and is a CPI instructor for the corporation. She has co-authored a book on RTI in the Middle School Setting.

Mrs. Debra Berry—Debra received an undergraduate degree in Business Education from Anderson University in 1995 and her graduate degree in Secondary Education from Ball State University in the summer of 2006. She began and continues her teaching career at Anderson Community Schools teaching Business Education. She has taught for 15 years at Anderson Highland High School teaching DCT (formerly known as Document Formatting I), Computer Applications (formerly known as Document Formatting II), Advanced Computer Applications, Marketing, Personal Finance, Careers, Business Math, Business Law, and a host of other courses). Additionally, she was the sponsor National Honor's Society for approximately 8 years while at Anderson Highland High School. She taught 1 year at Anderson High School and her current teaching assignment includes 7th grade, BIT (Business Information Technology), 8th grade, DCT (Digital Communication Tools) and 9th grade Computer Applications at Highland Junior High School in Anderson, Indiana.

Debra is the mother to two adult children and the grandmother of two. Prior to teaching, she worked in the business community as a Court Reporter for Madison Superior Court, Division II under the direction of Hon. Jack L. Brinkman for nearly 17 years. She has also been a legal secretary and a church secretary learning many facets of the business world.

Mrs. Misty Novak—Misty Novak received her BA degree at Anderson University and her MA at Ball State University. She recently retired after 31 wonderful years. Misty has taught a variety of subjects and grade levels: Kindergarten, 1st grade, began the gifted and talented program and taught grades 2-6 in that program, Academic Advancement encompassing grades K-5, and finally, 6th grade Language Arts. She lives with her husband Dan, here in good old Anderson, Indiana. Misty is the mother of three adult children and the grandmother of four. She is active in her parish of St. Ambrose Church. Misty has co-authored two children's books and four teacher's resource books and is currently working on publishing her first novel.

Mr. Ryan Dibala—Ryan Dibala is a graduate research/teaching assistant at Ball State University currently working on his Master's thesis entitled "Can Cerulean Warbler (*Setophaga cerulea*) male settlement patterns predict habitat quality in a managed forest?" He is a lab instructor for two Ball State classes and has had several experiences in non-formal education, including a 2-year stint in Ecuador serving as a Peace Corps volunteer. Ryan's future plans are to continue in the pursuit of his Ph.D. conducting research on agroecosystems in Latin America and eventually hope to become a college biology professor.

The above panel members offered specific feedback on the survey with regard to the re-wording of the questions and to ensure that the questions being asked in the survey were in alignment with the research questions that were posed. The panel members also took the survey two separate occasions with a 3 week time span between and the results between the surveys were very consistent.

Appendix E Letter of Initial Inquiry for Juried Panel of Experts (sent by e-mail)

Hello,

I hope this e-mail finds you well. The purpose of this e-mail is to inquire if you would each be willing to act as a juried panel of experts for the survey I will be sending out to virtual teachers and administrators. The purpose of the study is to determine what a virtual school is and looks like here in the State of Indiana as well as looking at its teachers and learners. More specifically, I sought to: 1) Determine those characteristics of the online teacher and 2) Determine those characteristics of the online learner.

I would ask that you each take the survey as if you were a teacher and then provide feedback on the following:

1. How long did the survey take you to complete?
2. Were there any questions that should be edited for focus and clarity? If so, you would then indicated which questions and what suggestions you would then have in that regard.
3. Does the survey meet the overall objective of the study as will be stated in the purpose above and then if not what areas in the survey are lacking?
4. What additional recommendations or comments would you have from the survey?

I want to thank you all again for your time and providing me the feedback necessary to send out a quality survey.

Sincerely,

David Sturgeon

Appendix F Letter to Juried Panel of Experts with survey link (sent by e-mail)

Hello,

I hope you all had a great holiday with your family and friends. Please find below the link to the survey that I will be sending out to virtual teachers and administrators. Again, the purpose of my study is to determine what a virtual school is and looks like here in the State of Indiana as well as looking at its teachers and learners. More specifically, I wanted to: 1) Determine those important characteristics of the online teacher and 2) Determine those characteristics of the online learner.

I would ask that you each take the survey as if you were a teacher and then provide feedback in a return e-mail on the following:

1. How long did the survey take you to complete?
2. Were there any questions that should be edited for focus and clarity? If so, would you please indicate which questions and what suggestions you would have in that regard.
(You can indicate those changes in a return e-mail or an attached word document.)
3. Does the survey meet the overall objective of the study as will be stated in the purpose above and then if not what areas in the survey are lacking?
4. What additional recommendations or comments would you have from the survey?

(You might have to cut and paste the link into a new web-browser window)

Link: <https://www.surveymonkey.com/s/VYTKGG6>

I want to thank you all again for your time and providing me the feedback necessary to send out a quality survey and if you do not mind return to me by January 8, 2012.

Sincerely – David Sturgeon

Appendix G – E-mail instructions for completing the staff survey

Hoosier Academy Virtual Teachers and Administrators:

Please find within this e-mail a link for a Survey I would like for you to take the time to complete. As many of you know, I am in the final stages of completing my doctorate at Ball State University in Educational Leadership and the topic of my dissertation is Virtual school...What is it really about? A closer look from the inside of a charter virtual school along with an examination of the characteristics of its teachers and students.

The purpose of the study is to determine what a virtual school is and looks like here in the State of Indiana as well as looking at its teachers and learners. More specifically, I am seeking to: 1) Determine those important characteristics of the online teacher and 2) Determine those important characteristics of the online learner.

Therefore, I am in need of some data, all of which will be confidential and used only for dissertation purposes, from each of you as a teacher or administrator, as you are the experts in your field and know the characteristics of both the online teacher and the online student. I will be the only one with a direct link to the survey as this SurveyMonkey™ account is a personal account, not the professional account through the school. If you would follow the link below and complete the survey, I anticipate it shouldn't take you any longer than 20 – 30 minutes to complete. All information gathered from the survey will, again, only be used as data for my research in the dissertation only. Once I complete the analysis of the data gathered all information from the survey will be deleted and the survey link will be closed after April 9, 2012. There are no anticipated risks for participating in this study. If you have any questions at any time please do not hesitate to ask by e-mailing at dsturgeon28@gmail.com or calling me at 765-713-5130, you can further contact my Ball State University Faculty Advisor and Dissertation Committee Chair, Dr. Del Jarman at dwjarman@bsu.edu if you have additional questions.

All surveys can be completed anytime between now and March 17, 2012. I will send another reminder a few days before the survey closes. Your participation in this study is completely voluntary and you are free to withdraw your permission at any time for any reason without penalty or prejudice from the investigator, myself. Please feel free to ask any questions at any time.

For questions about your rights as a research subject, please contact Director, Office of Research Integrity, Ball State University, Muncie, In 47306, (765) 285-5070, irb@bsu.edu

Participation again is voluntary. You may decide not to participate in this study and if you begin participation you may still decide to stop and withdraw at any time. Your decision will be respected. Having read the above and having had an opportunity to ask any questions please complete the survey if you would like to participate in this research. By completing the survey, you will give me permission for your participation. You may keep this e-mail for future reference.

I want to, in advance, say thank you for completing the survey and helping me with my goal of attaining my doctoral degree!

LINK TO SURVEY: <https://www.surveymonkey.com/s/VYTKGG6>

Sincerely, David B. Sturgeon, Ed.

Appendix H Survey Instrument and link to the online version of the survey

See PDF Attachment for Instrument

LINK TO SURVEY: <https://www.surveymonkey.com/s/VYTKGG6>

Appendix I – E-mail instructions for completing the parent survey

Hoosier Academy Virtual School Parents:

For those who do not know me, I am David Sturgeon and I am the Academic Team Lead (ATL)—building principal here for the Hoosier Academy Virtual School for grades 7-10. I am currently a doctoral student at Ball State University in Muncie, IN. I am in the final stages of completing my doctorate and the topic of my dissertation is Virtual school...What is it really about? A closer look from the inside of a charter virtual school along with an examination of the characteristics of its teachers and students.

The purpose of the study is to determine what a virtual school is and looks like here in the State of Indiana as well as looking at its teachers and learners. More specifically, I am seeking to:

- 1) Determine those important characteristics of the online teacher and
- 2) Determine the important characteristics of the online learner.

Therefore, I am in need of some data from you as a parent. If you would follow the link below and complete the survey, I anticipate it shouldn't take you any longer than 5-15 minutes to complete. All information gathered from the survey will be used as data for my research in the dissertation only and therefore will be confidential and anonymous. I will be the only one with a direct link to the survey as this SurveyMonkey™ account. All information gathered from the survey will again only be used as data for my research in the dissertation only. Once I complete the analysis of the data gathered all information from the survey will be deleted and the survey link will be closed after April 9, 2012. There are no anticipated risks for participating in this study. Participation again is voluntary. You may decide not to participate in this study and if you begin participation you may still decide to stop and withdraw at any time. Your decision will be respected. Having read the above and having had an opportunity to ask any questions please complete the survey if you would like to participate in this research. By completing the survey,

you will give me permission for your participation. You may keep this e-mail for future reference.

If you have any questions at any time please do not hesitate to ask by e-mailing personally at dsturgeon28@gmail.com or you can further contact my Ball State University Faculty Advisor and Dissertation Committee Chair, Dr. Del Jarman at dwjarman@bsu.edu if you have additional questions.

For questions about your rights as a research subject, please contact Director, Office of Research Integrity, Ball State University, Muncie, In 47306, (765) 285-5070, irb@bsu.edu

All surveys can be completed anytime between now and March 17, 2012. I will send another reminder a few days before the survey closes.

I want to say thank you, in advance, for completing the survey and helping me with my goal of attaining my doctoral degree!

Link to survey: <https://www.surveymonkey.com/s/LMS9PGY>

David Sturgeon, Ed. S.

Appendix J Survey Instrument and link to the online version of the parent survey

LINK TO PARENT SURVEY: <https://www.surveymonkey.com/s/LMS9PGY>

Parent Survey

I greatly appreciate your willingness to participate in this survey. All answers will be held in confidence and will only be used for purposes of data gathering to support the research for my dissertation. All surveys are anonymous. I anticipate the survey will take between 5 and 10 minutes. Again, thank you again for your participation. If you have any further questions regarding the survey or my dissertation work please e-mail me at dsturgeon28@gmail.com.

1. Which category below includes your age?

- ☐ Which category below includes your age? 18-20
- ☐ 21-29
- ☐ 30-39
- ☐ 40-49
- ☐ 50-59
- ☐ 60 or older

2. What is the highest degree you have received?

- ☐ What is the highest degree you have received? High School
- ☐ Associates degree
- ☐ Bachelor's degree
- ☐ Master's degree
- ☐ Post-Graduate degree
- ☐ Doctoral degree
- ☐ Other

3. Which option best describes your previous learning (schooling) situation for your child (ren)?

- ☐ Which option best describes your previous learning (schooling) situation for your child(ren)?
- ☐ Charter School
- ☐ Private School
- ☐ Home-School
- ☐ Public School
- ☐ Other (please specify)



4. The main reason your child enrolled in Hoosier Academy Virtual School was:

- ☐ The main reason your child enrolled in Hoosier Academy Virtual School was: Credit Recovery
- ☐ To work at your own pace/work ahead/early graduation
- ☐ Not finding success in the previous learning environment
- ☐ Personal preference
- ☐ Home-school
- ☐ To balance academic and extracurricular activities
- ☐ Hospital homebound
- ☐ Student choice
- ☐ Other (please specify)



5. Rate the quality of your child's experience thus far with Hoosier Academy Virtual School.

- ☐ Rate the quality of your child's experience thus far with Hoosier Academy Virtual School.
- ☐ Poor
- ☐ Fair
- ☐ Good
- ☐ Excellent
- ☐ No opinion thus far

Further

Explanation



Done

Appendix K Letter of Support from Mr. Lynn Black, Head of Schools, Hoosier Academy



To: David Sturgeon

Re: Dissertation Topic of: Virtual school...What is it really about? A closer look from the inside of a charter virtual school along with an examination of the characteristics of its teachers and students.

Characteristics of its Teachers and Students

Date: March 5, 2012

Mr. Sturgeon, you have permission to present, collect information, etc. for your dissertation topic entitled: Virtual school...What is it really about? A closer look from the inside of a charter virtual school along with an examination of the characteristics of its teachers and students.

You also have my permission to utilize two surveys; a virtual survey for staff members and a parent survey for all virtual parents in grades K-10. In addition you may conduct interviews with 15 teachers from K-10 at the Hoosier Academy Virtual School as part of the research project. If I can assist you in any other way, please do not hesitate to ask. I'll look forward to your findings.

Signature,

Mr. Lynn Black,
Head of School

**Administrative Center
855 N. Franklin Road
Indianapolis, IN
office 317.495.6494
cell 317.418.8769**